Kino to DeMoss-Petrie 138 Kilovolt (kV)
Transmission Line Project

Community Working Group Meeting #4

(Virtual)

Presented:

Thursday, August 6, 2020

6:30-8:30 p.m.

The TEP Line Siting Team

Introductions

Kino to DeMoss-Petrie Transmission Line Project

April Online Project Update

TEP prepared an online project update to continue public outreach efforts during the COVID-19 pandemic

tucson.com

TEP cancels 2 public meetings next week on transmission line due to COVID-19 concerns

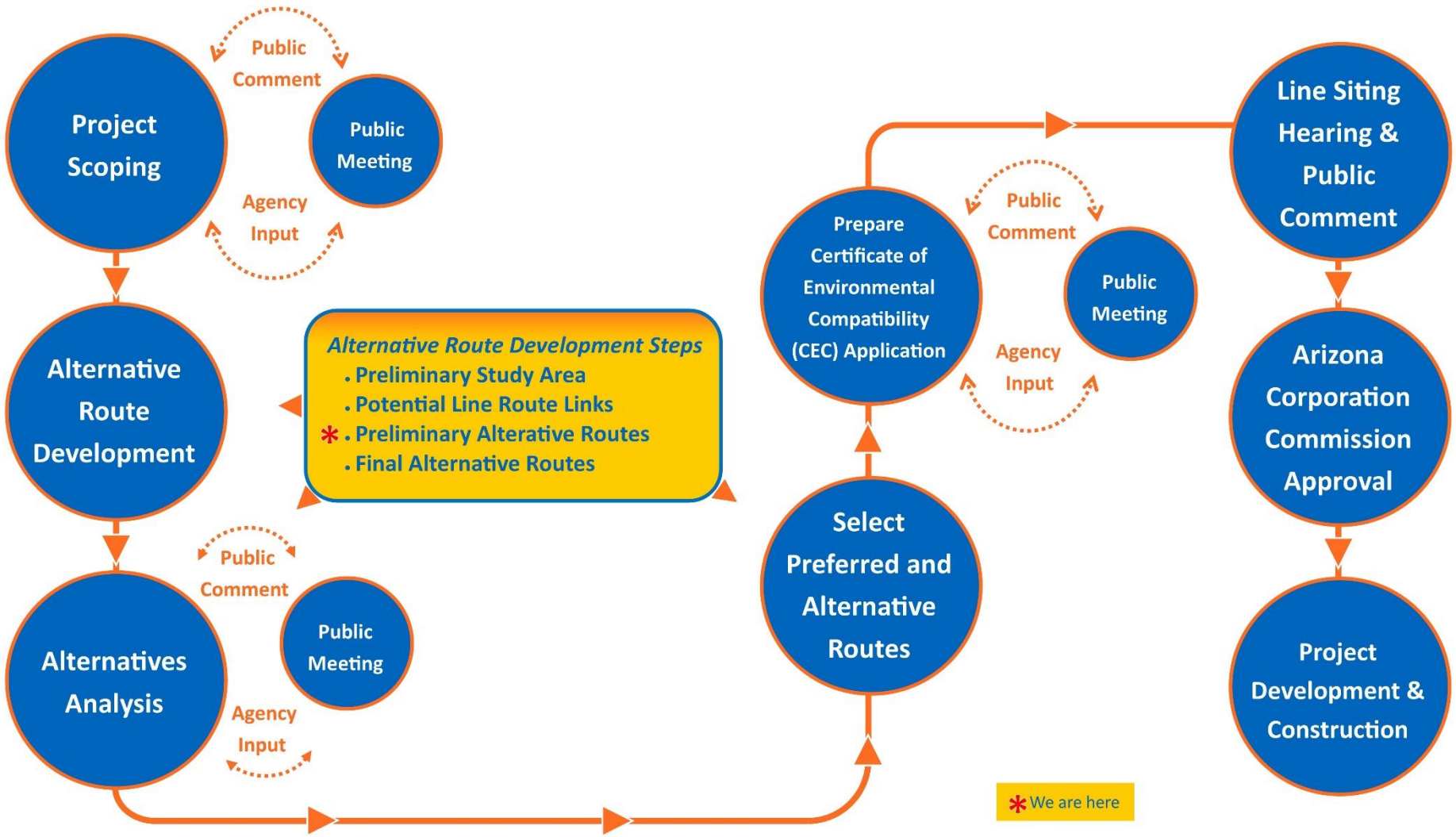
Tucson Electric Power crews at work.

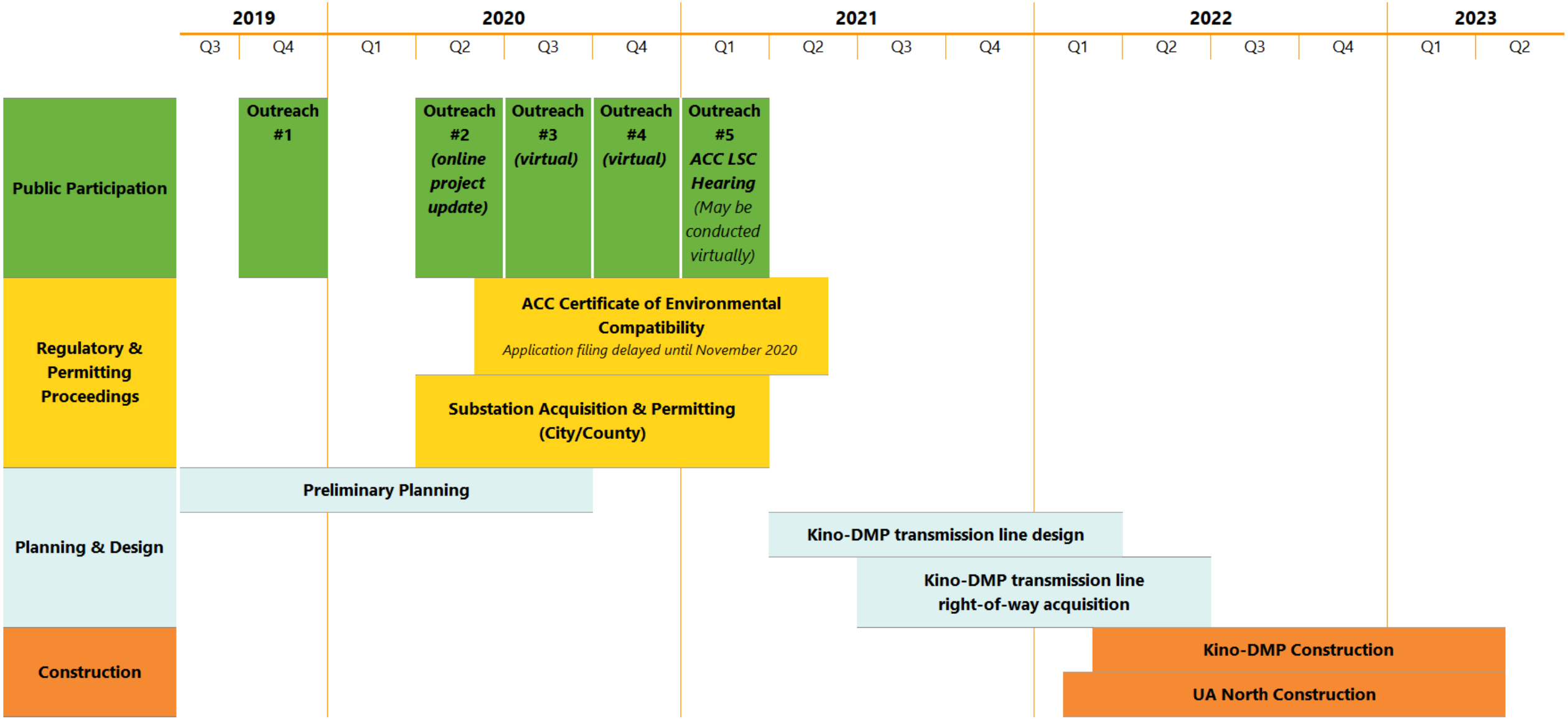
Mamta Popat / Arizona Daily Star file

Due to COVID-19 concerns, Tucson Electric Power is suspending two public open house meetings that were scheduled on Tuesday and Wednesday next week on its proposed Kino to DeMoss-Petrie 138-kilovolt transmission line.

Why a Virtual Open House?

- The Project is needed by 2023 to meet TEP's longterm planning requirements.
- TEP must continue public outreach during the pandemic to keep the Project on schedule.
- On June 29th, Governor Ducey signed an executive order prohibiting public events of more than 50 people.


Project Scoping
Public Comment
Public Meeting
Agency Input
Alternative Route Development
Alternative Route Development Steps
. Preliminary Study Area
. Potential Line Route Links
* . Preliminary Alterative Routes
. Final Alternative Routes
Alternatives Analysis
Public Comment
Public Meeting
Agency Input
Select Preferred and Alternative Routes
Prepare Certificate of Environmental Compatibility (CEC) Application
Public Comment
Public Meeting
Agency Input
Line Siting Hearing & Public Comment
Arizona Corporation Commission Approval
Project Development & Construction
*We are here


2019
2020
2021
2022
2023
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Public Participation
Outreach #1
Outreach #2 (online project update)
Outreach #3 (virtual)
Outreach #4 (virtual)
Outreach #5 ACC LSC Hearing (May be conducted virtually)
Regulatory & Permitting Proceedings
ACC Certificate of Environmental Compatibility
Application filing delayed until November 2020
Substation Acquisition & Permitting (City/County)
Planning & Design
Preliminary Planning
Kino-DMP transmission line design
Kino-DMP transmission line right-of-way acquisition
Construction
Kino-DMP Construction
UA North Construction

Questions?

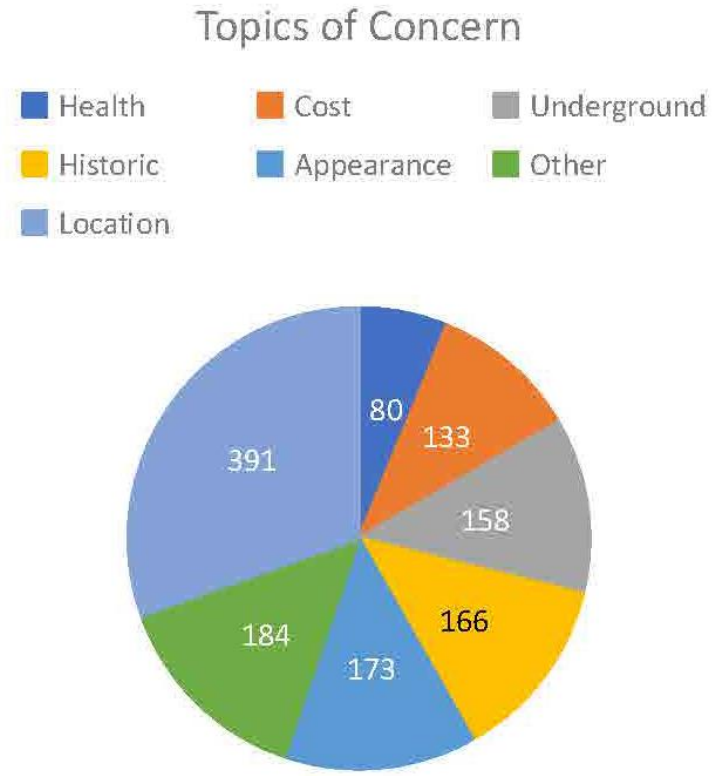
Outreach

- Previous Community Working Group Meetings:
  - Meeting 1 - Oct. 9, 2019
  - Meeting 2 - Dec. 4, 2019
  - Meeting 3, part 1 - Feb. 12, 2020
  - Meeting 3, part 2 – Mar. 11, 2020

Comments

Comments:

- TEP received 489 comments as of as of July 20, 2020*
  - 85% responded to
  - 10% no response required
  - 5% unable to respond



*** Note: A commenter may have commented on multiple topics.**

Appearance:

- Undergrounding distribution
- Pole finish – silver/grey not rust
- Height/width of poles
- “Visual clutter”
- Creates an “industrial feel”
- “Unsightly”
- “Ruin skyline”

Historic Properties:

- Built Environment Study in progress that will:
    - Compare and contrast potential impacts of each preliminary alternative route, including:
        - Visual
        - Individual historic properties
        - Historic Districts

- TEP is coordinating with the COT Historic Preservation Officer (HPO) on this study.
- The COT HPO will review the report for accuracy.
- Results of the study will be used by TEP in its analysis of the routes

Residential Use and Property Values:

- Routes will be compared and contrasted by percent of adjacency to residential use.

- Recent property value analysis by BLM for a 230kV project concluded:
  - Conclusions from the research are mixed and findings range from no effects to negative effects.
  - Research stresses that there is no way to predict whether or how a particular transmission line would impact property values, and conclusions have only been drawn after construction.
  - Complete study can be accessed here:

https://eplanning.blm.gov/eplanning-ui/project/97103/510

EMFs produced by power lines:

- Much weaker than those associated with other sources such as microwaves or radio waves
- Given the frequency, EMFs produced by power lines are considered “non-ionizing” because they are not known to damage DNA or cells directly
- Dissipate the further away from the line you move

Transmission Line Undergrounding:

- TEP initiated an underground study that determined that the cost to underground is approximately 11 times greater than overhead construction:
    - Overhead construction: $1.5 million/1.5miles
    - Underground construction: **$16.4 million**/1.5 miles
- A copy of the underground study can be found at:
    - tep.com/wp-content/uploads/TEP-138-UG-Report-Rev.-0-signed.pdf

Comments

Cost:

- Banner and/or U of A should pay
- Those needing the power (large developers) should pay to underground, not the neighborhoods
- TEP can afford to bury the line
- How much will this cost the rate payers
- If bury and rate payers have to pay – all of Tucson benefits because this area is a “gem to all.”

Alternatives to the 138 kV line:

- Use Solar instead:
  - Put solar at Banner and U of A instead
  - I have solar, I'm not driving the need
  - Why isn't there a solar component
- Have you considered building a number of smaller, decentralized energy production plants along the freeway or railroad tracks and feeding into the neighborhoods on smaller reconditioned lines. I would also suggest that the university, hospital, large hotels, larger users be required to set up their own power plants to serve their needs and reduce the needs of the residential area. Consider natural gas fueled generation which you have so proudly installed at the main facility by the freeway as backup.

Location of Facilities:

- TEP received over 390 comments related to the location of facilities.

- Where a commenter specifically mentioned a link as preferable or not preferable;
  - 715 listed preferable link(s)
  - 538 listed not preferable link(s)
  - These comments were tallied (single “vote” per person) and used in the link analysis as one category by which the links were compared with each other.

Questions?

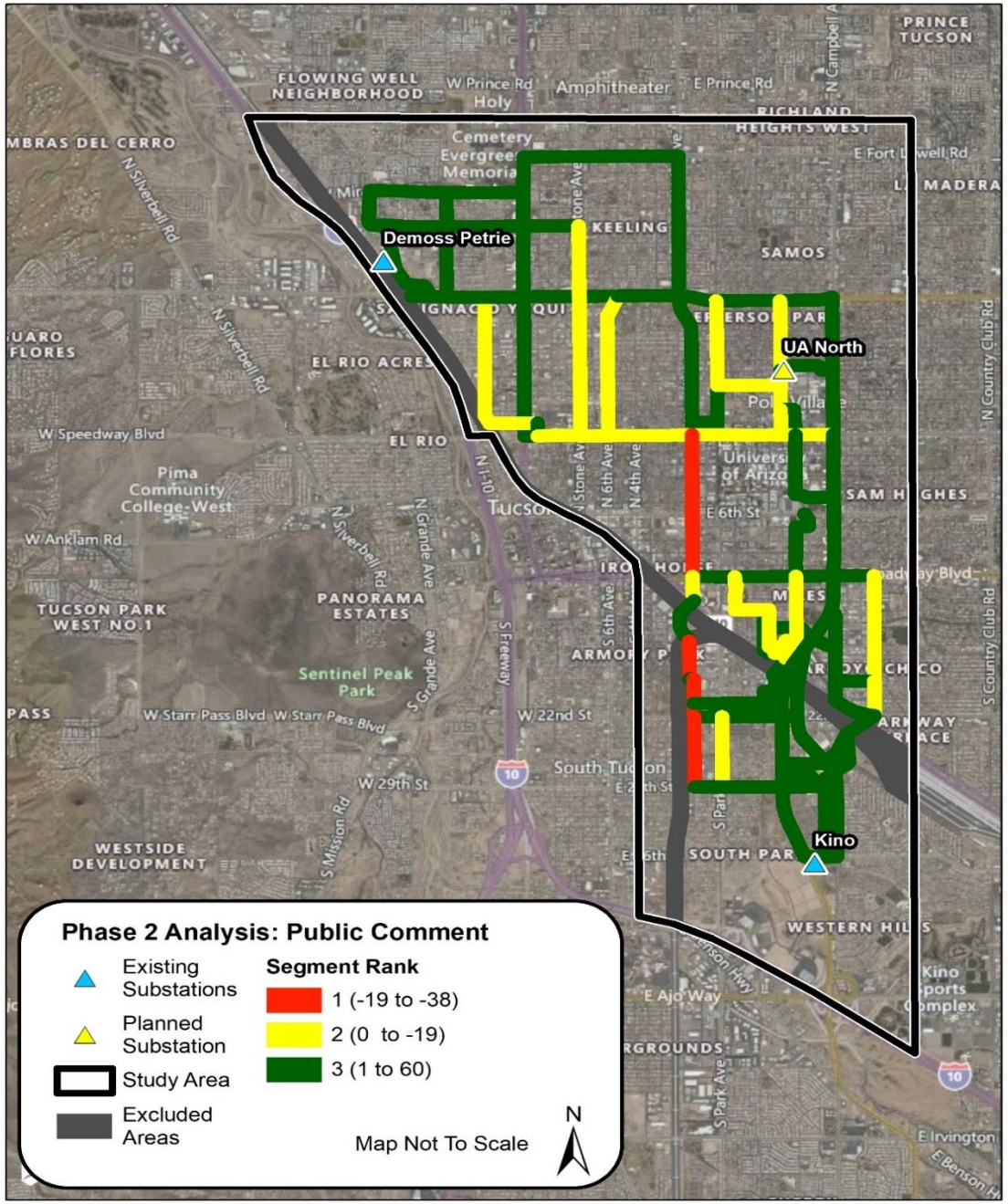
Geospatial Analysis

- Phase 2 of the analysis took place in June 2020, and took the following two additional factors into consideration:
  - Public, CWG, and stakeholder comments
  - Engineering constructability

- The phase 2 composite score is the sum of the customer comments score (range 1-3) and the constructability score (also range 1-3). For both analysis phases, the higher the score the more viable the link is.

Phase 2 Analysis:

Public Comment

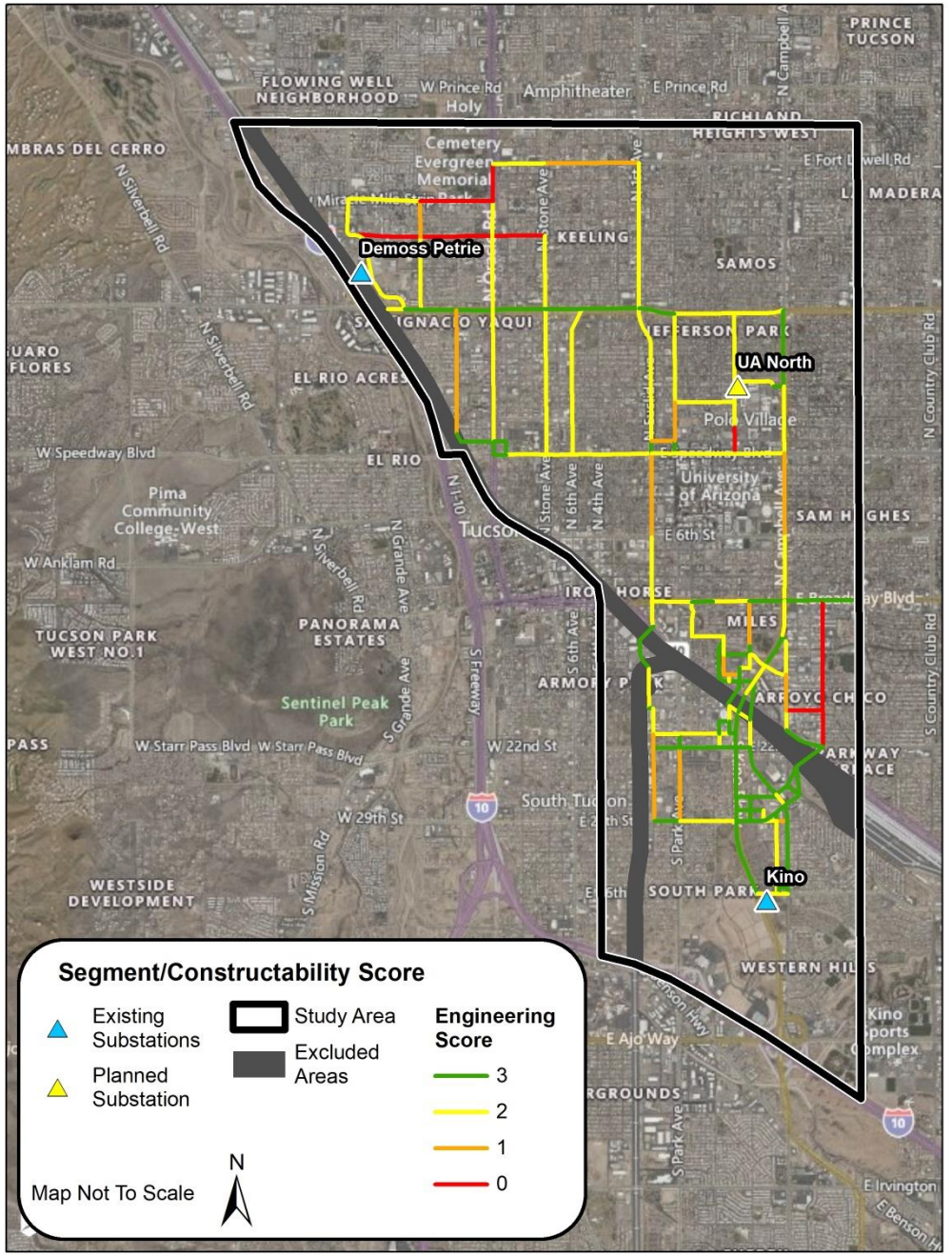


Constructability Analysis

- Looks at existing physical constraints such as:
  - Existing utilities in the road right of way
  - Existing utilities attached to structures that would need to be relocated
  - Sidewalks
  - Storm drains
  - Right of Way width
- Looks at reliability constraints
  - Will another line have to be taken out of service for construction of new line
- Scores each constraint and then provides an overall constructability score for each link

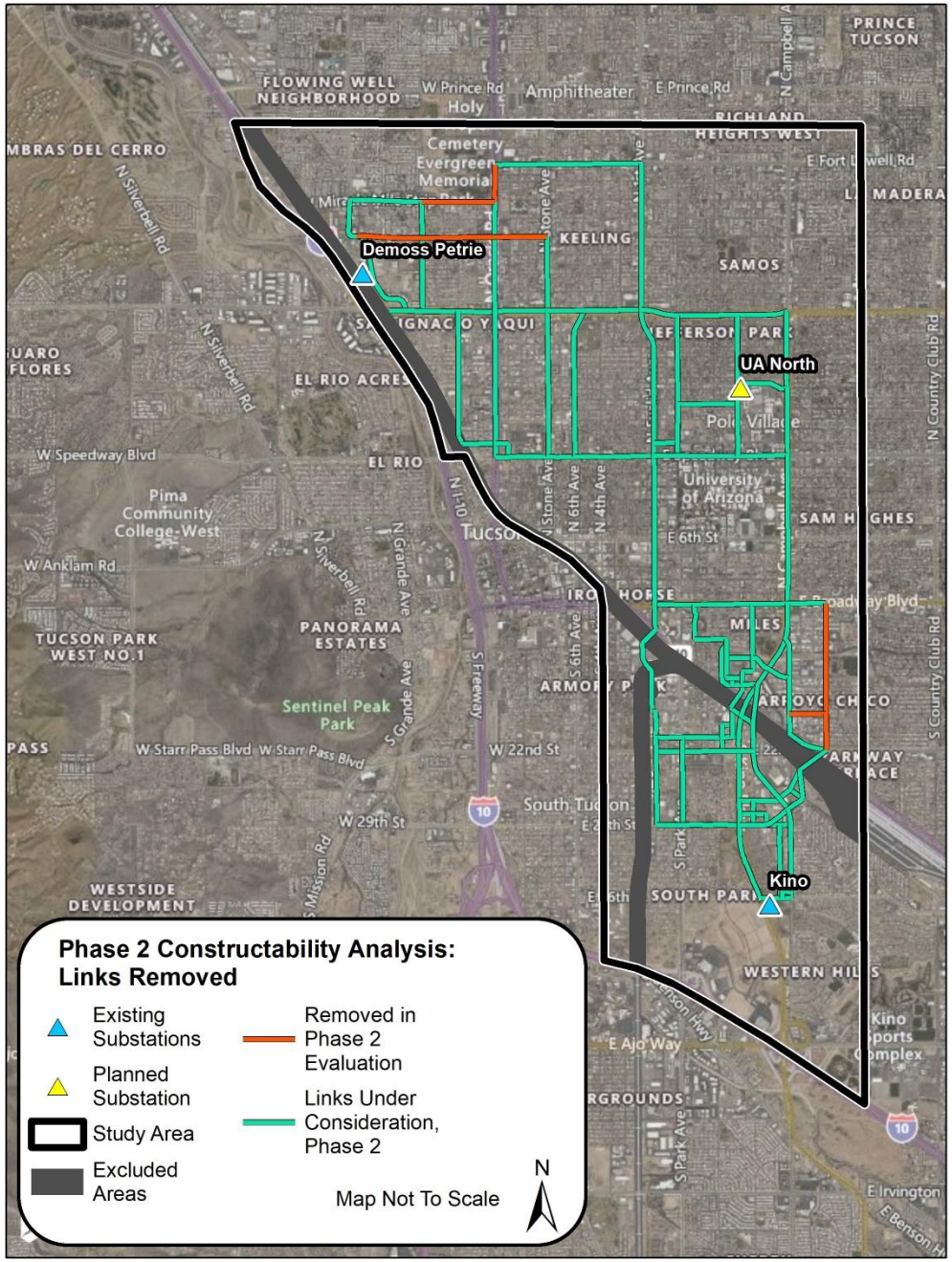
Phase 2 Analysis:

Constructability Score



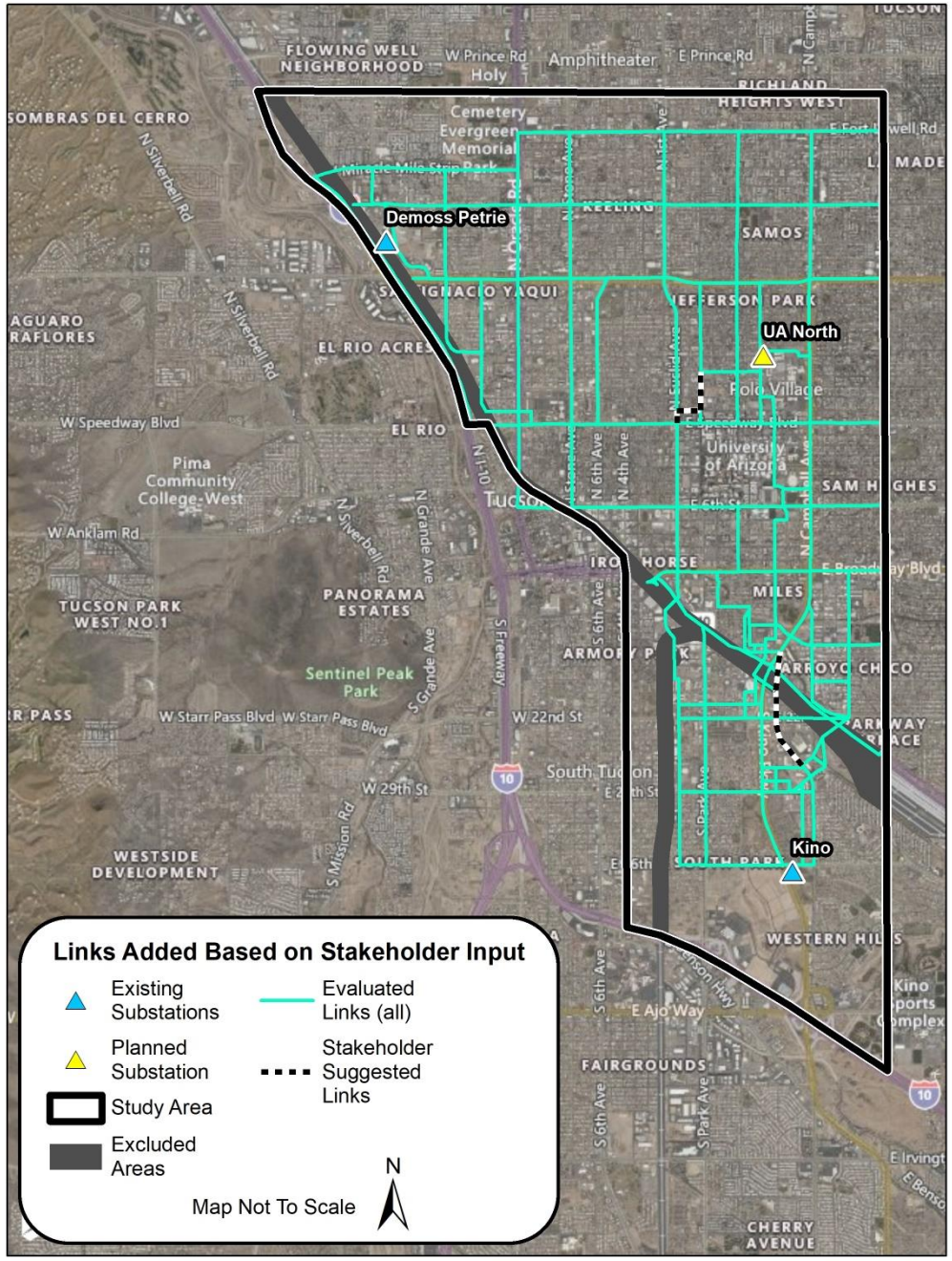
Phase 2 Analysis:

Constructability Analysis, Links Removed



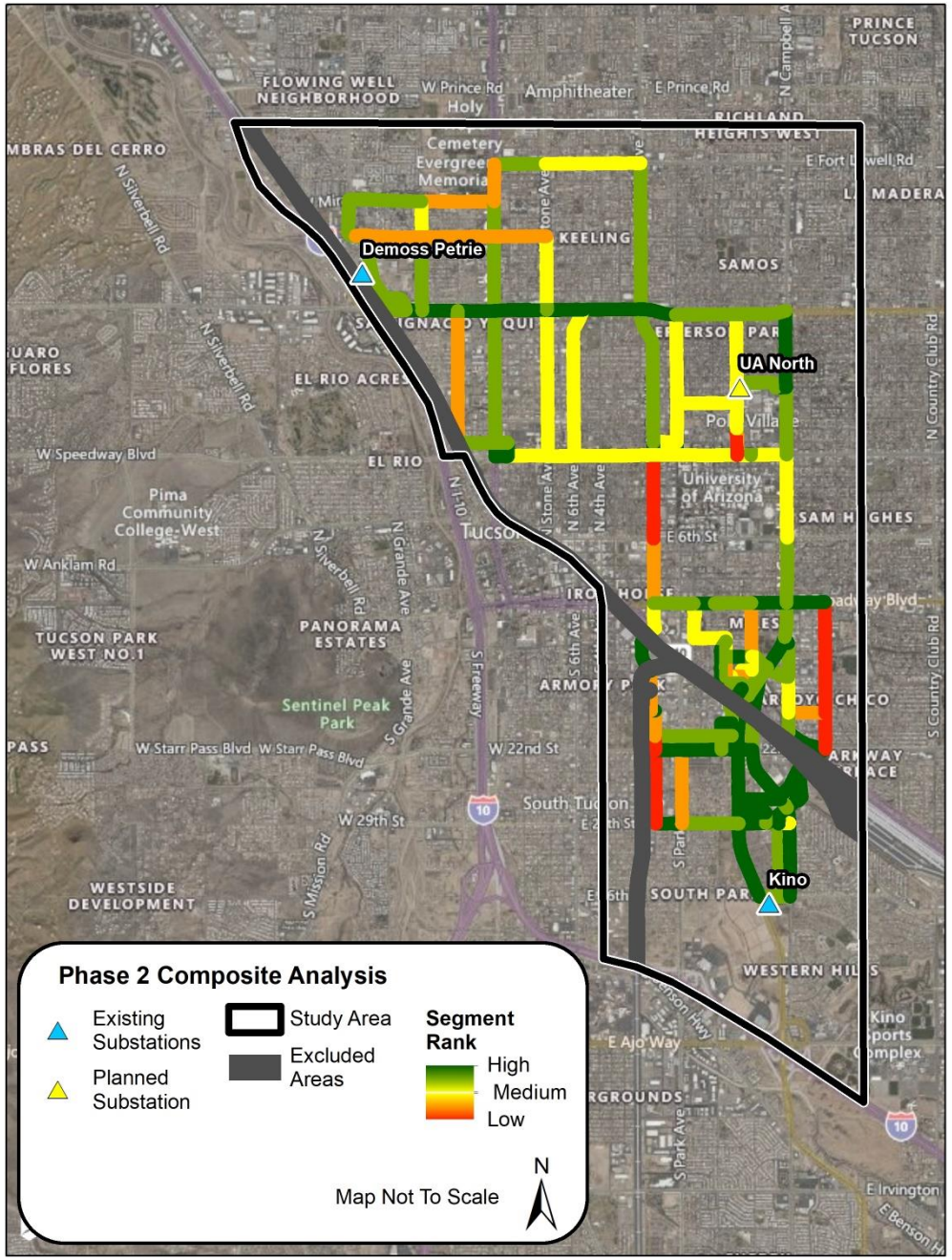
Stakeholder Input:

Links Added



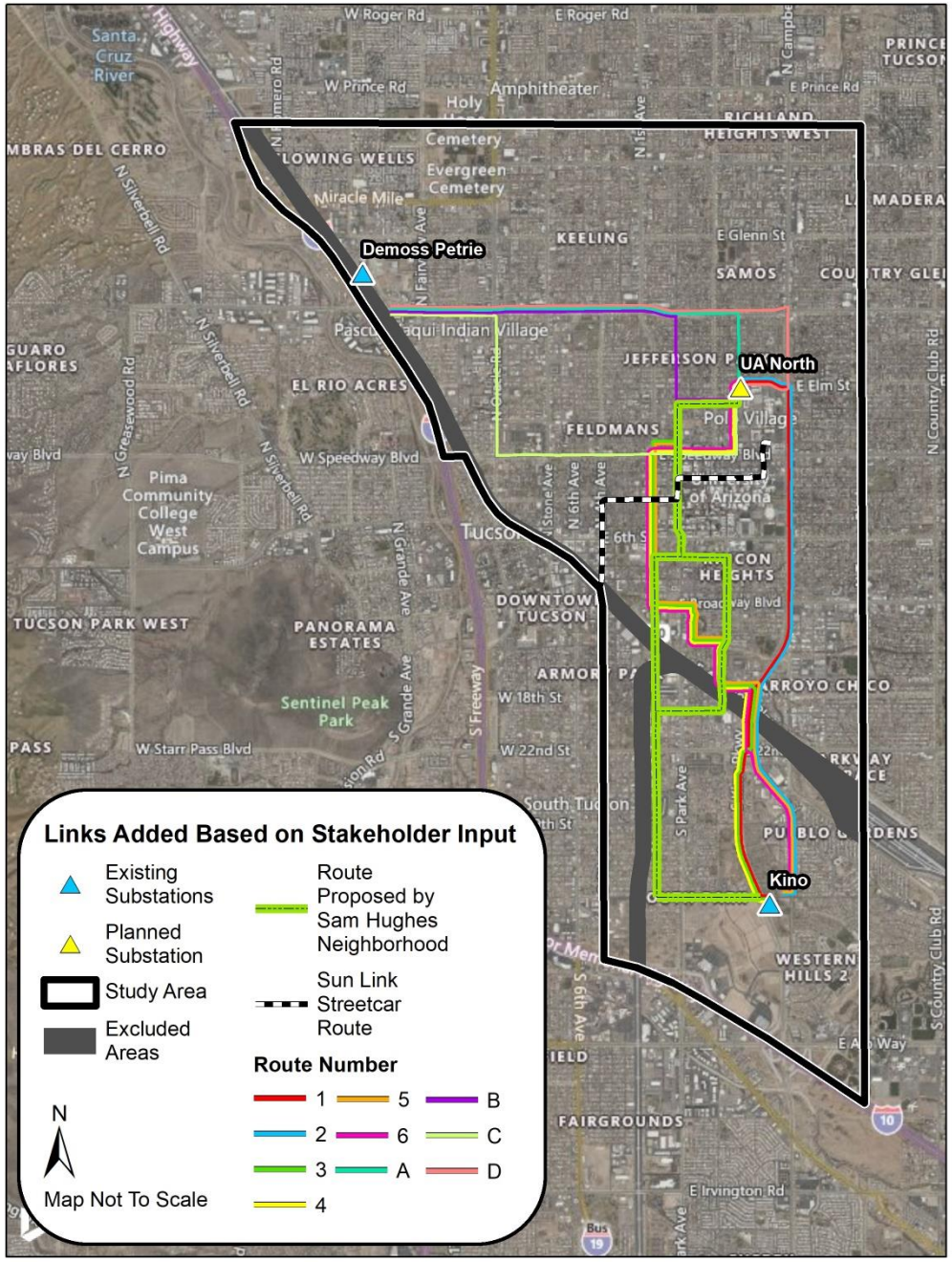
Phase 2 Analysis:

Composite Analysis



Stakeholder Input:

Links Added

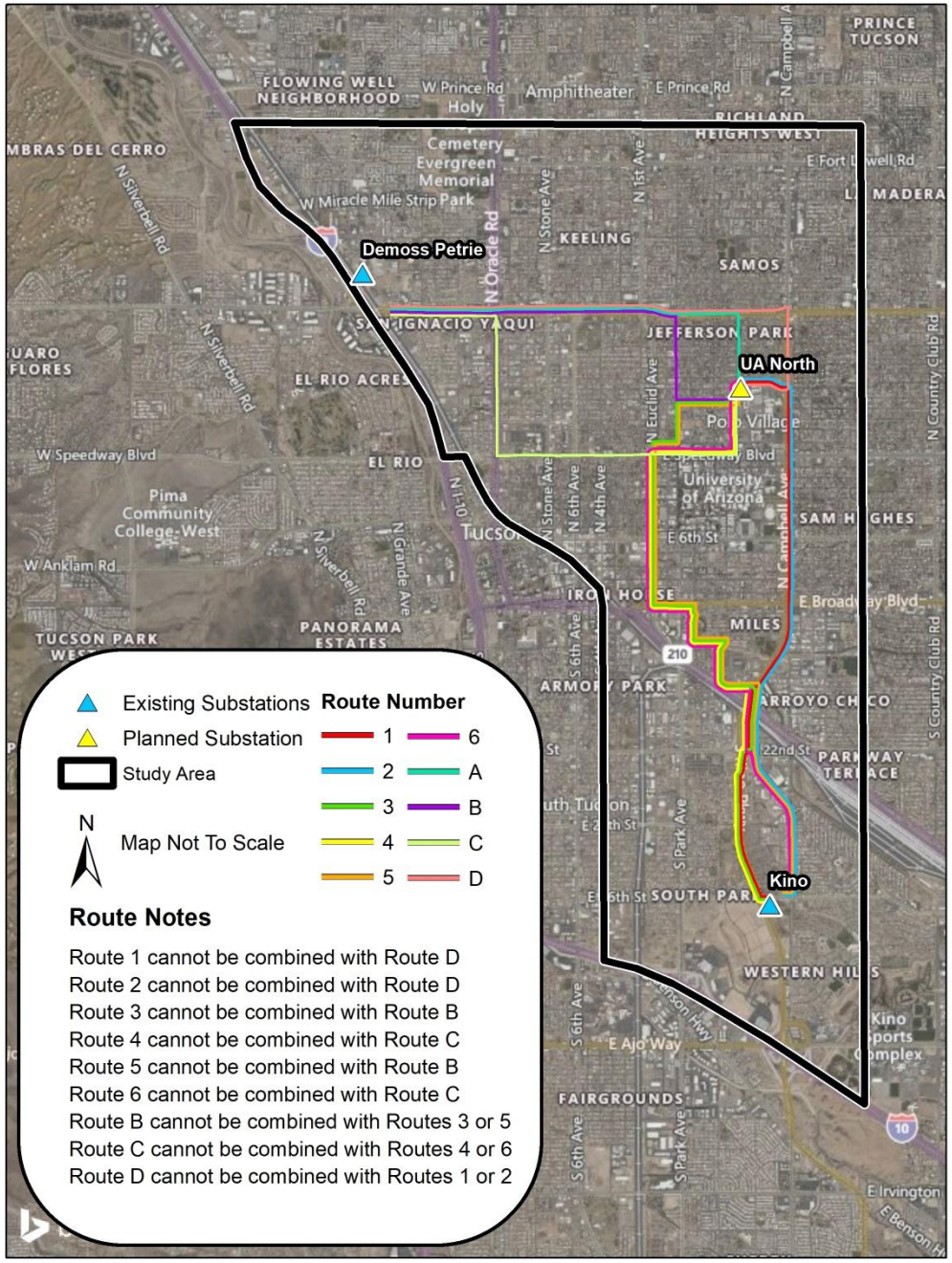


Questions?

Corridor Overview

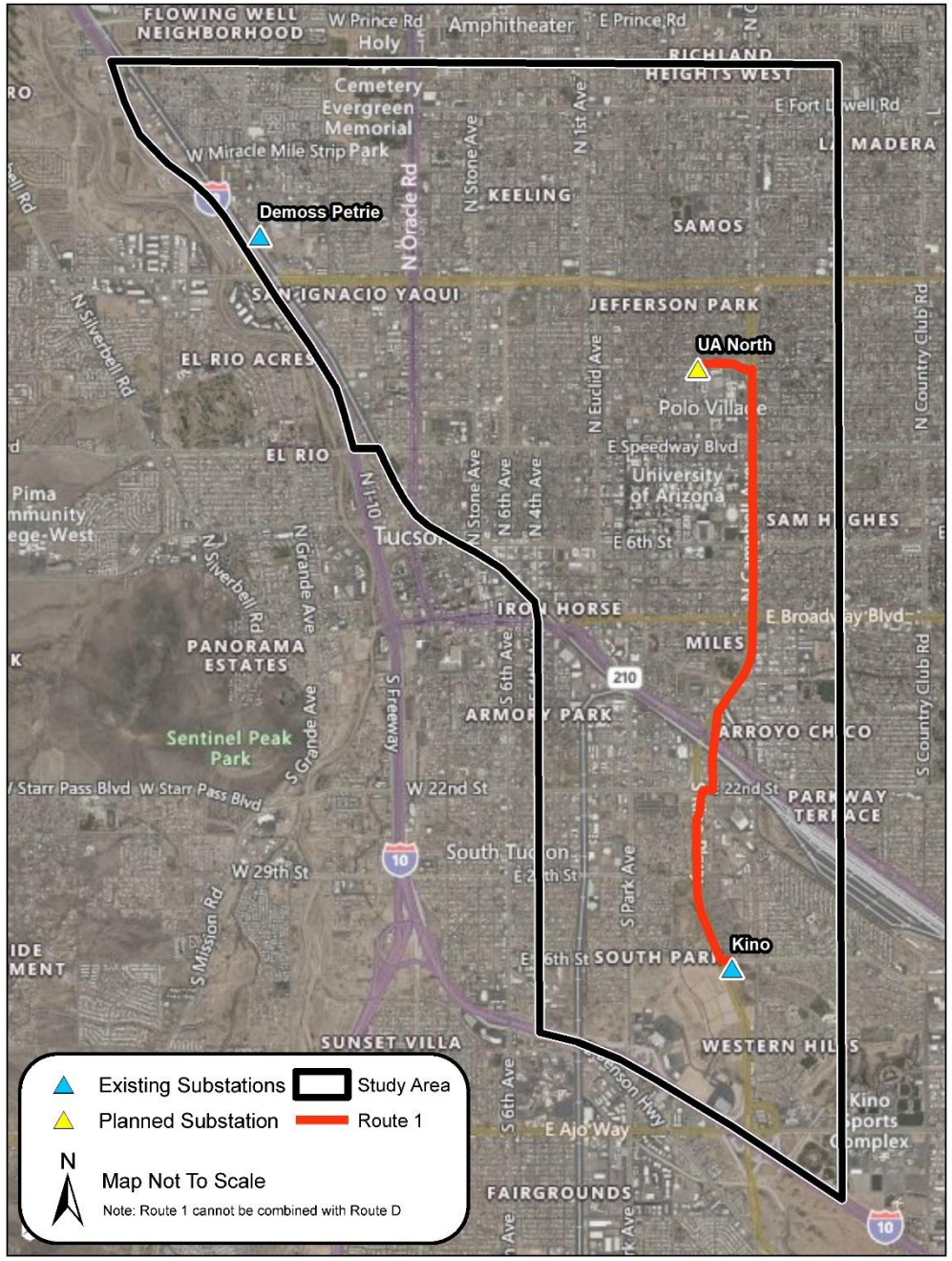
Preliminary Corridors

Corridors under consideration



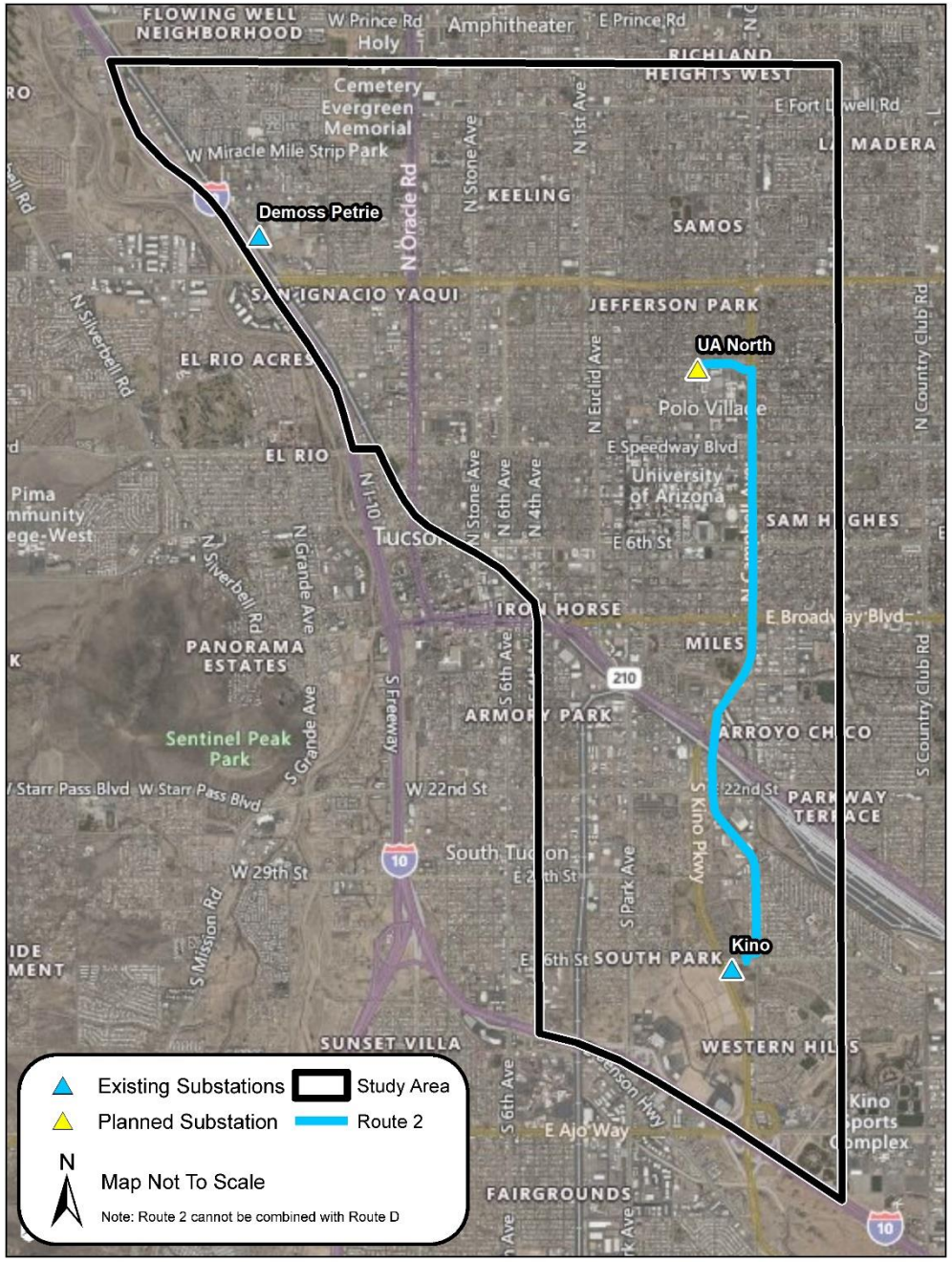
Preliminary Corridors

Corridor 1



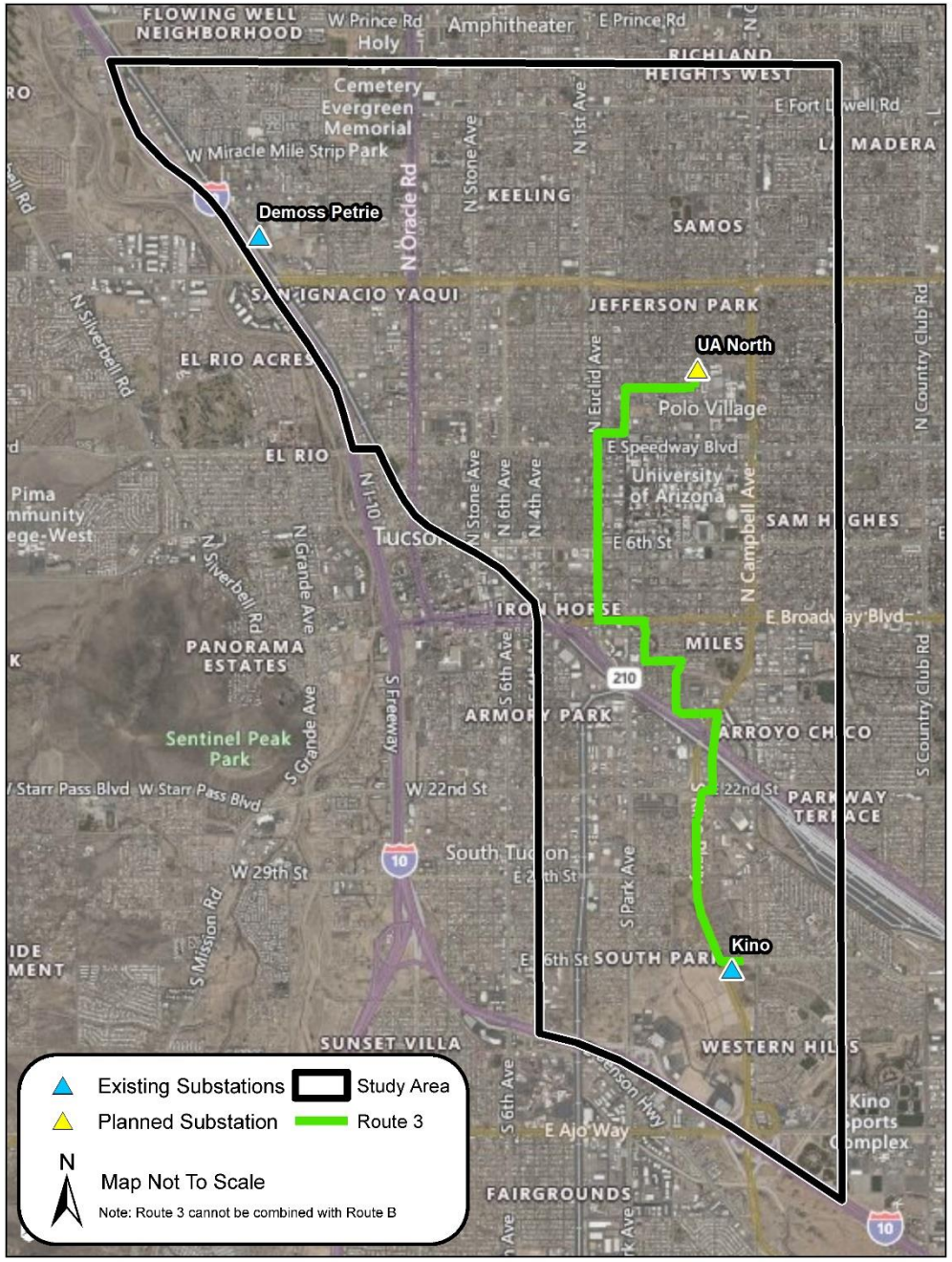
Preliminary Corridors

Corridor 2



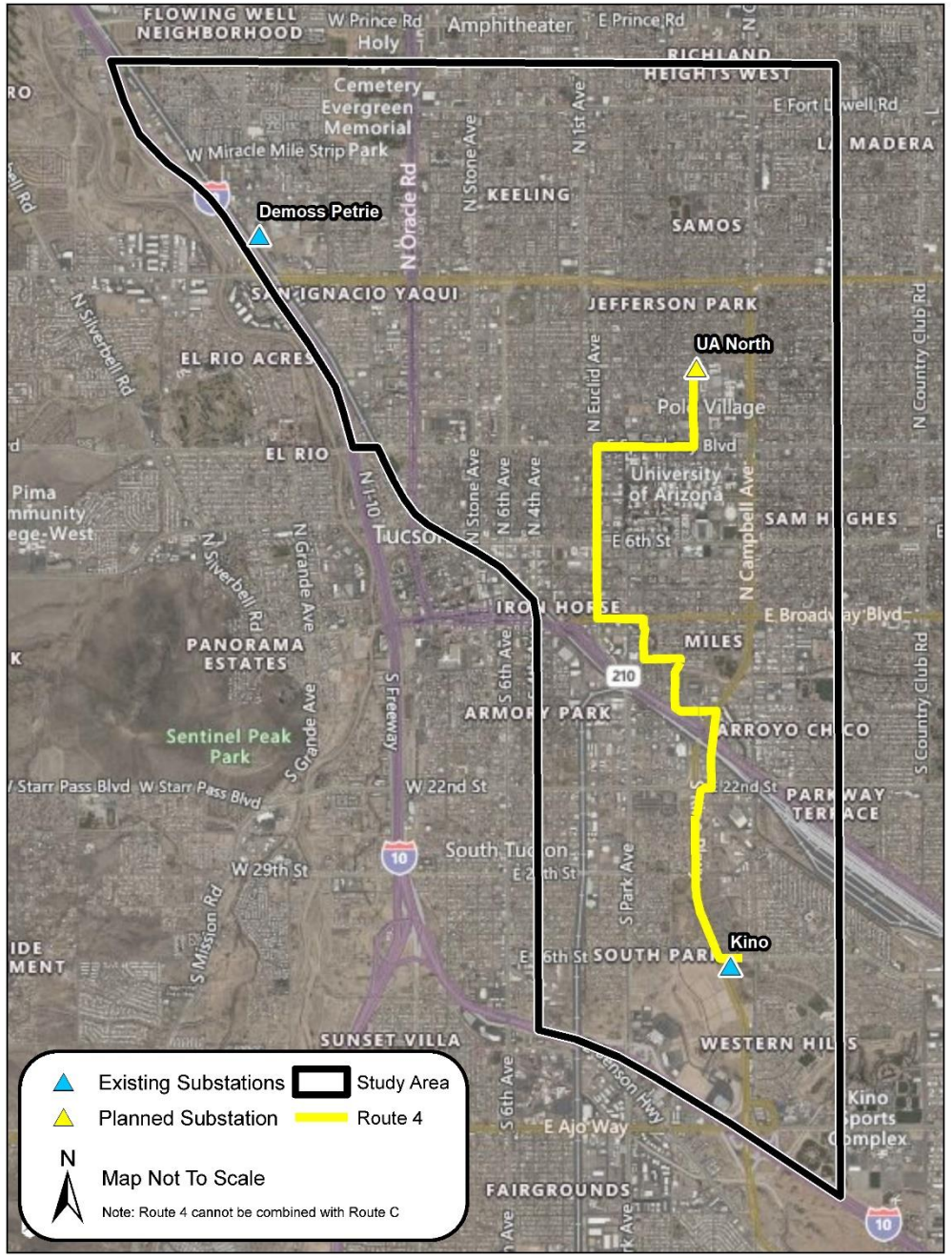
Preliminary Corridors

Corridor 3



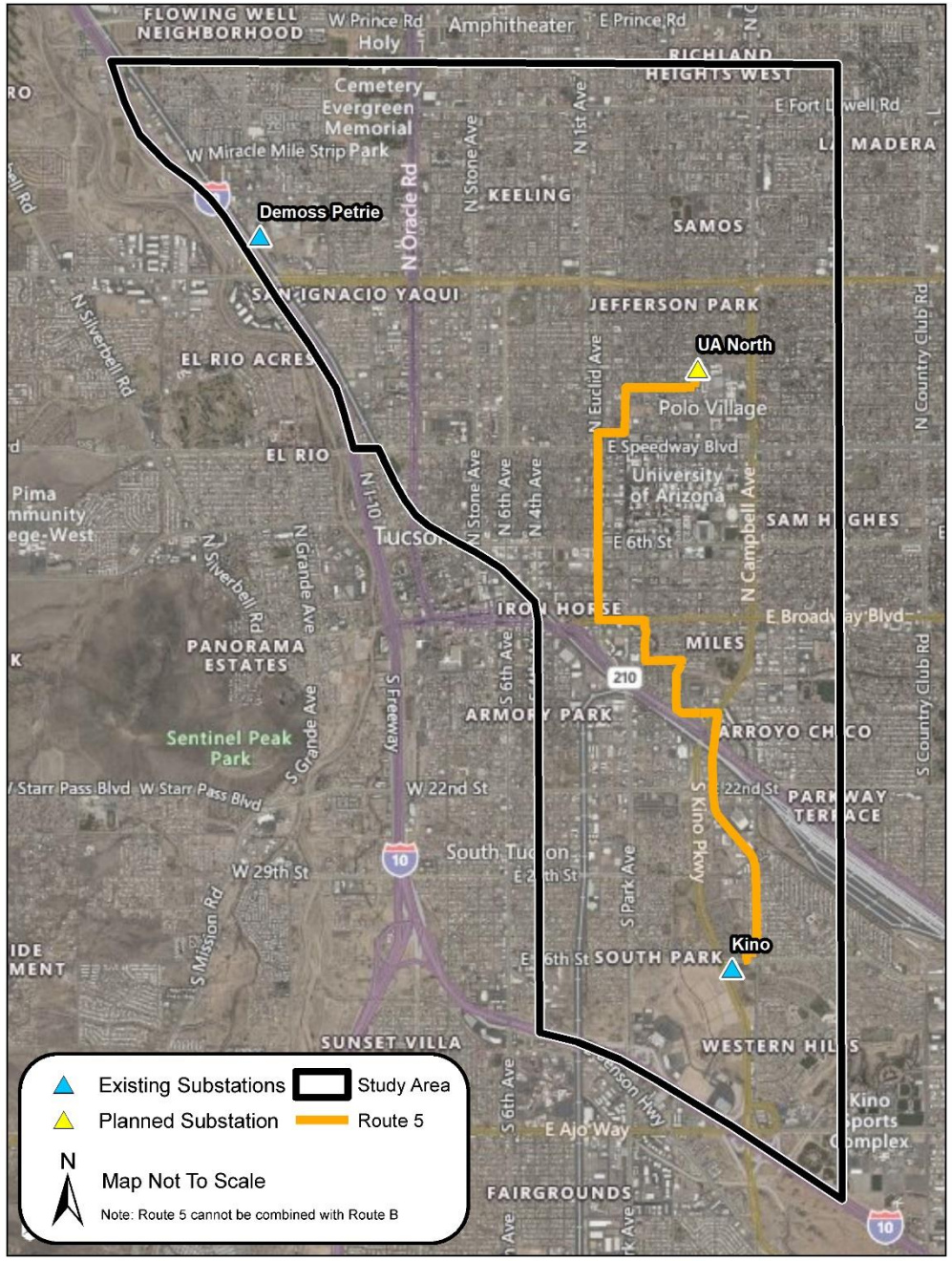
Preliminary Corridors

Corridor 4



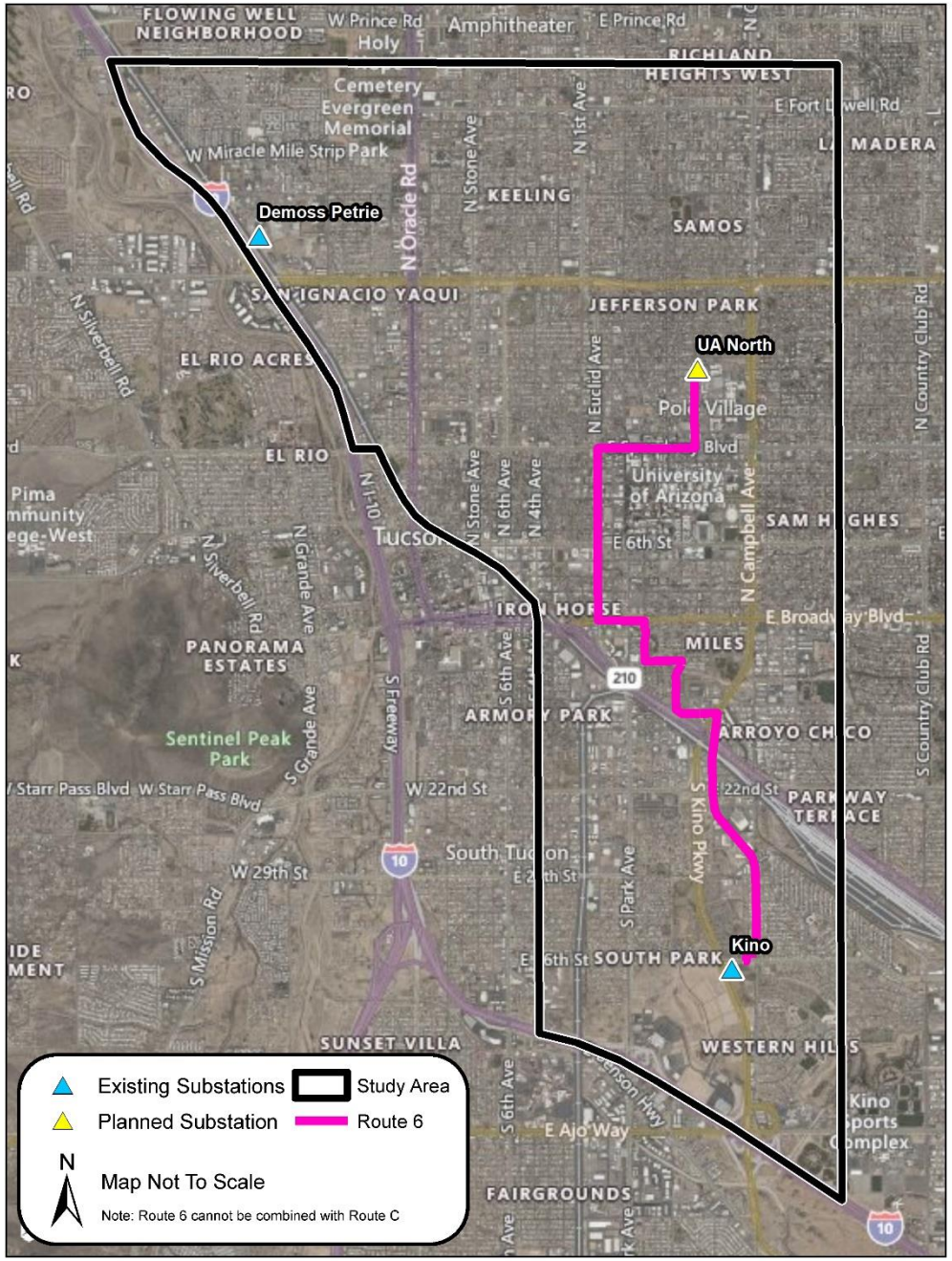
Preliminary Corridors

Corridor 5



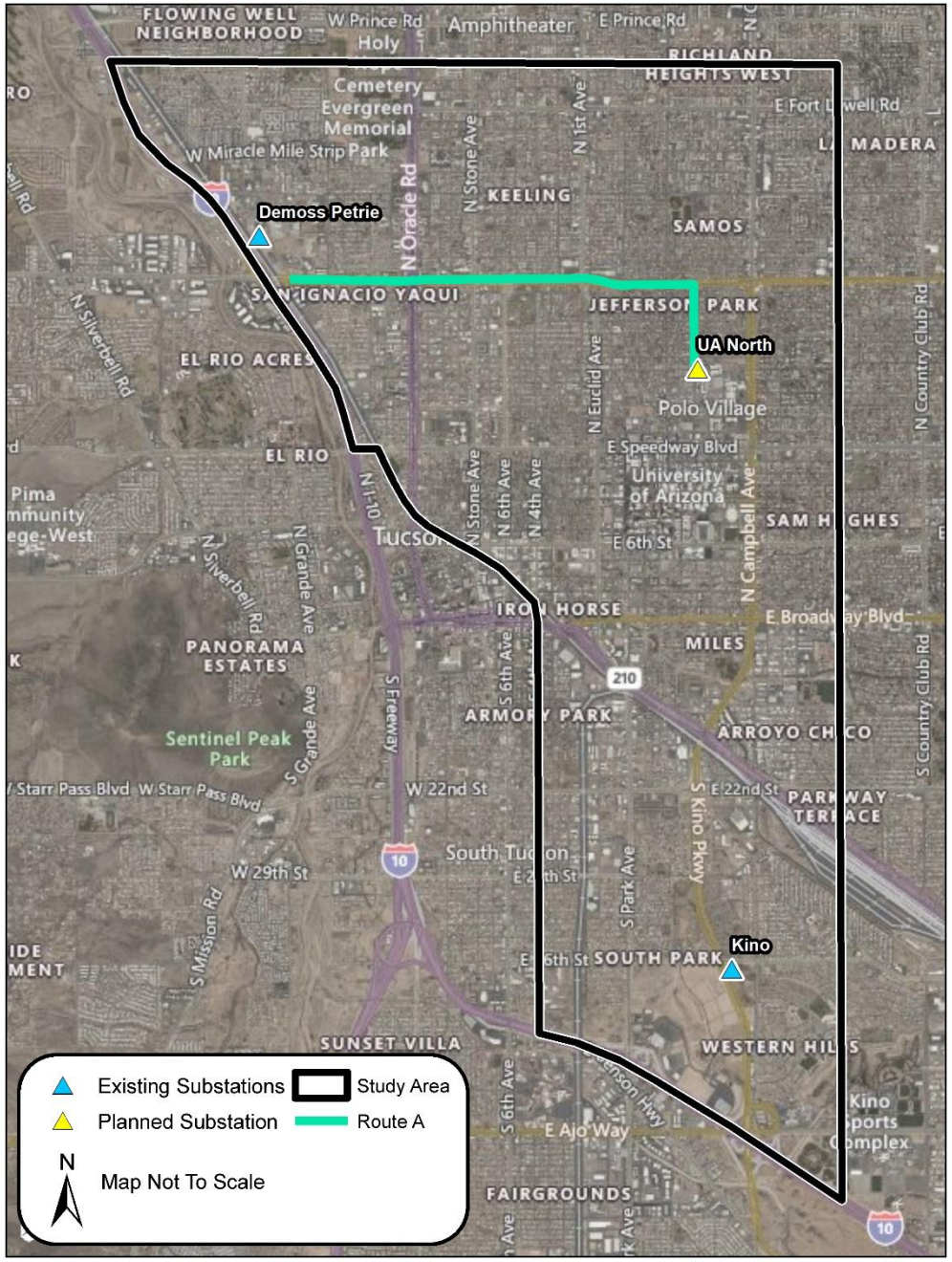
Preliminary Corridors

Corridor 6



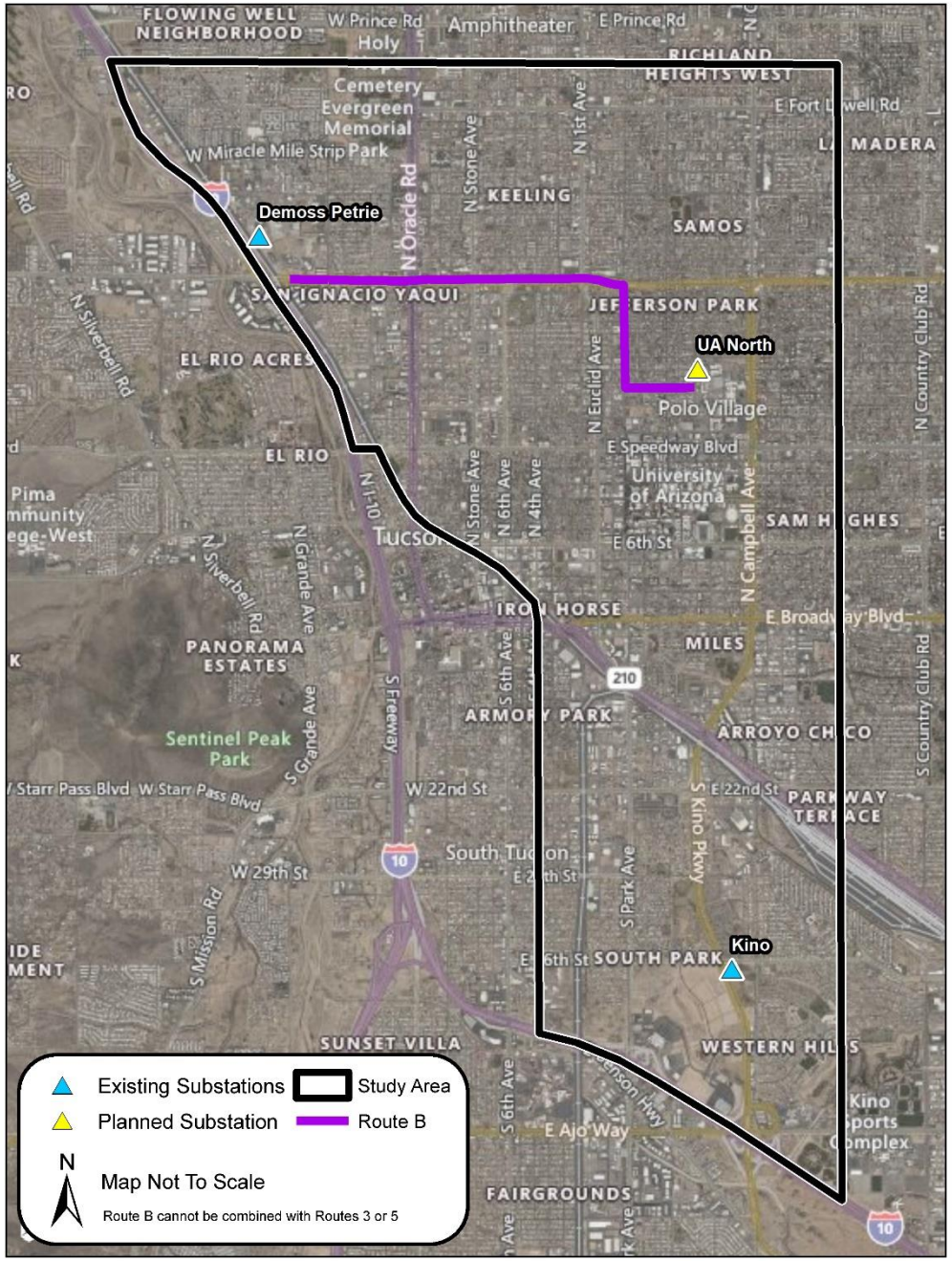
Preliminary Corridors

Corridor A



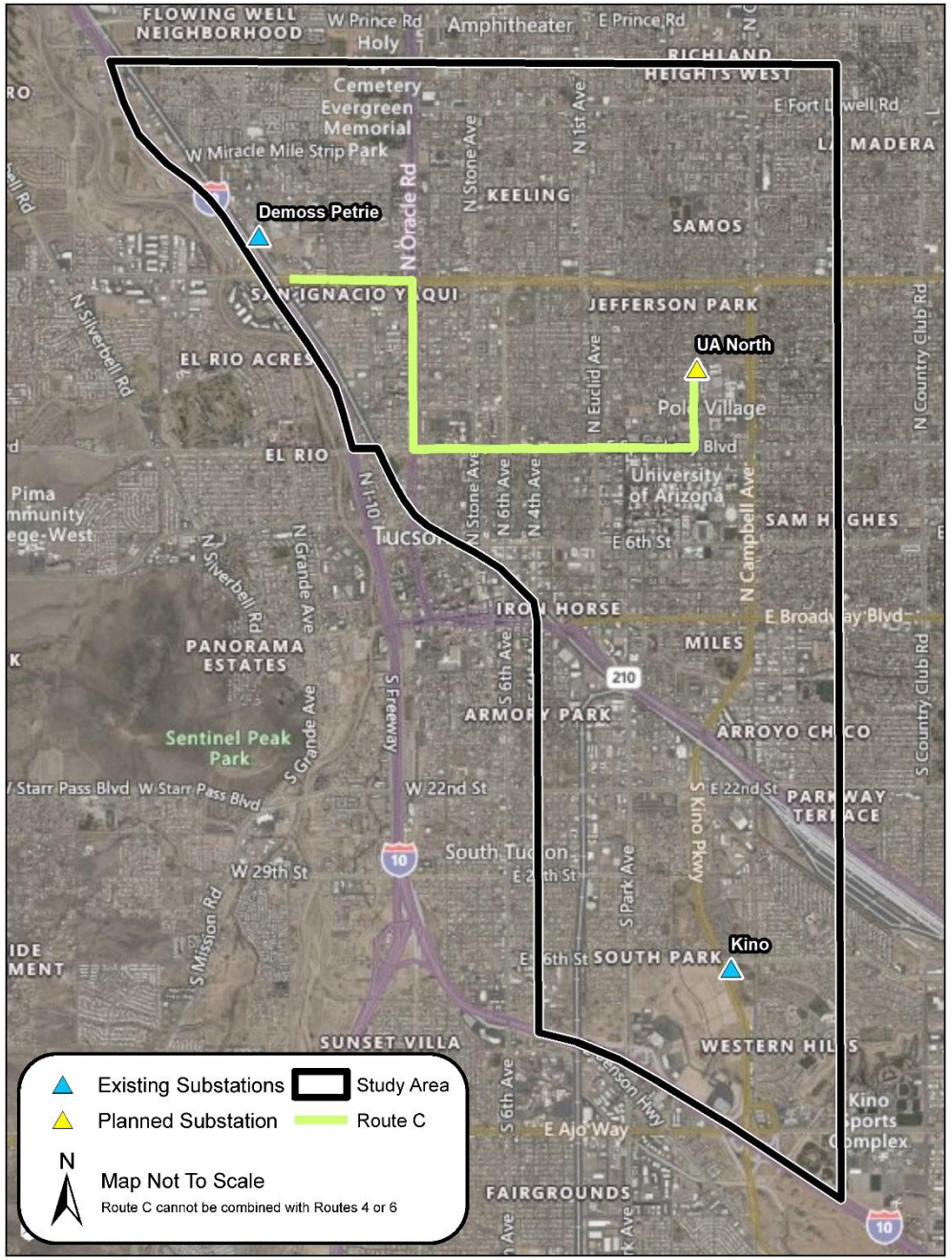
Preliminary Corridors

Corridor B



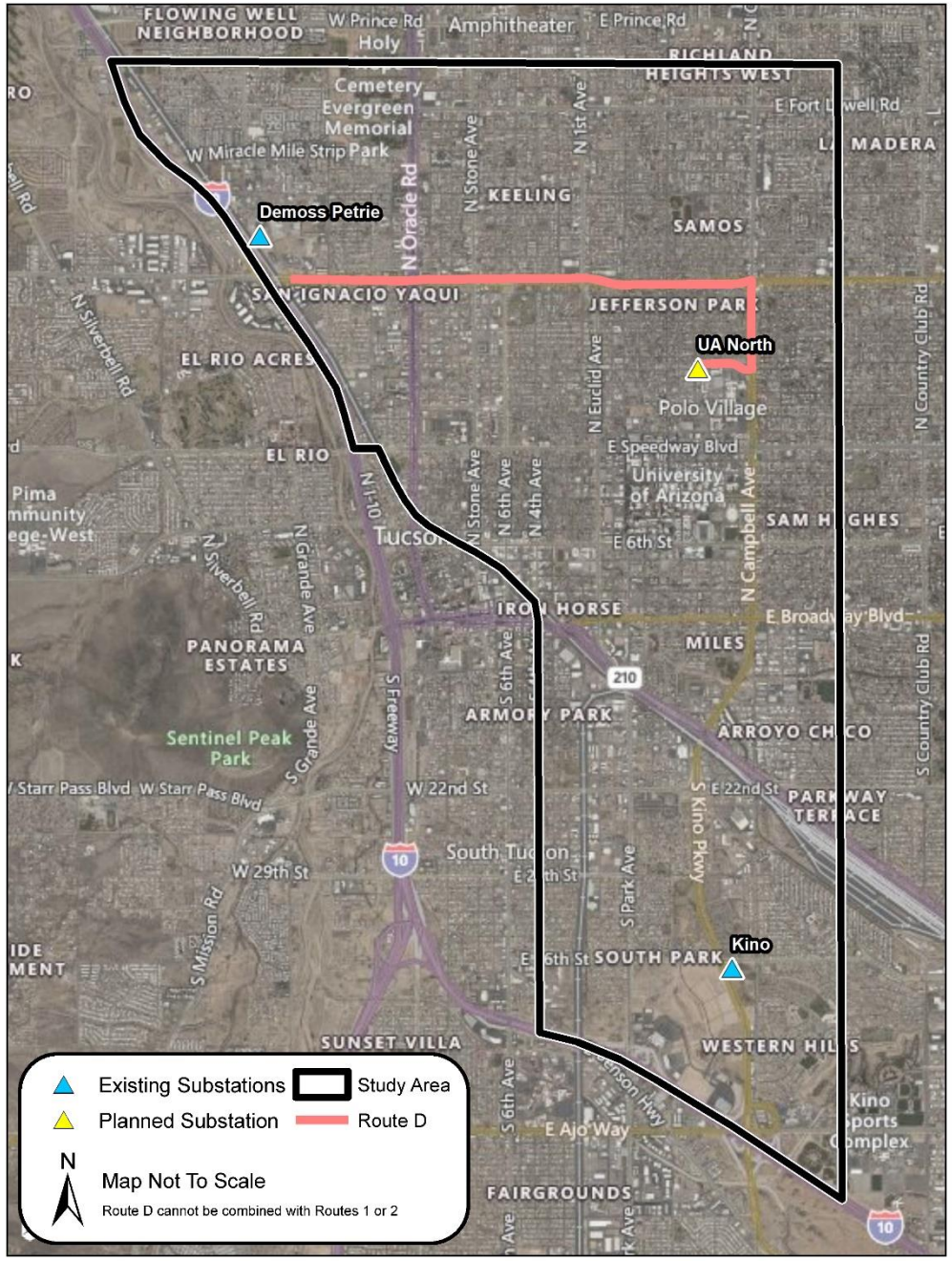
Preliminary Corridors

Corridor C



Preliminary Corridors

Corridor D

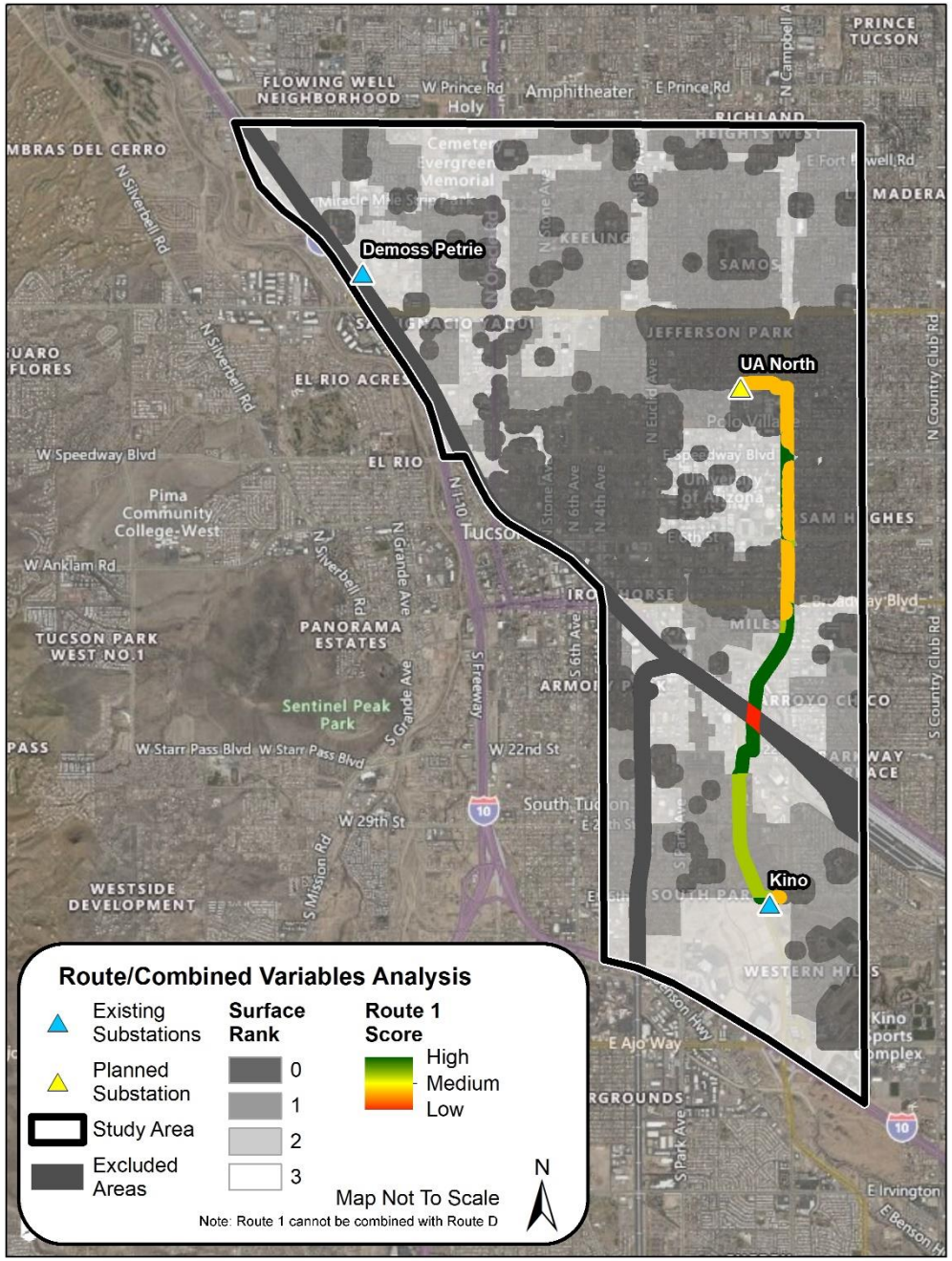


Preliminary Routes

- The Preliminary Routes were *developed* based on the influence of the following factors:
  - Historic properties
  - Sensitive receptors
  - Residential use
  - Public/stakeholder comment
  - Constructability
- Stakeholder and public comment are not included in the preliminary route analysis as the routes have not been commented on yet. This analysis will be updated in Phase 3 and provided prior to the next outreach.
- The positive influence of existing roads and TEP existing distribution and transmission lines was removed in order to present only the influence of Historic Properties, Residential Use, and Sensitive Receptors on the preliminary route scores.

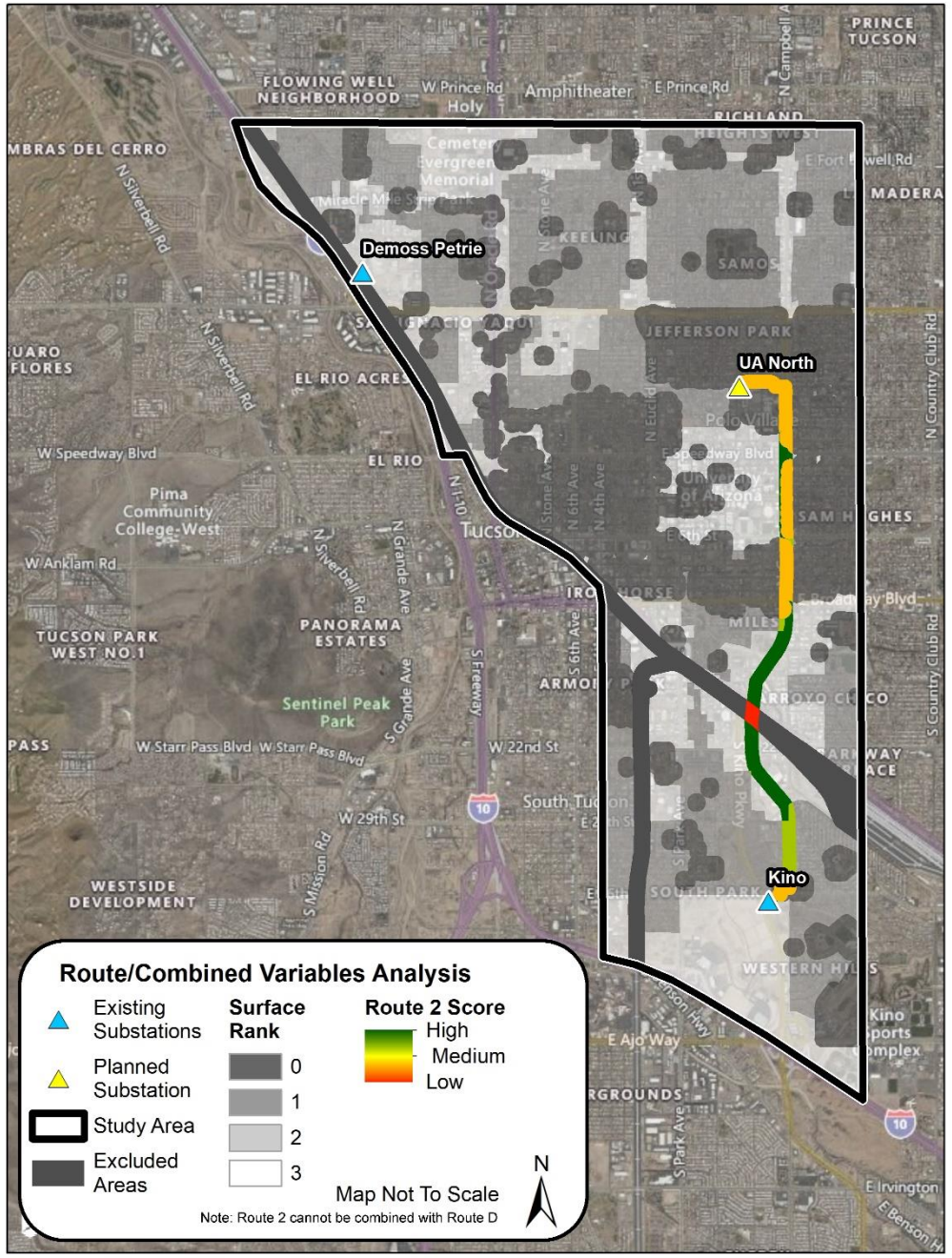
Combined Variables Analysis

Corridor 1



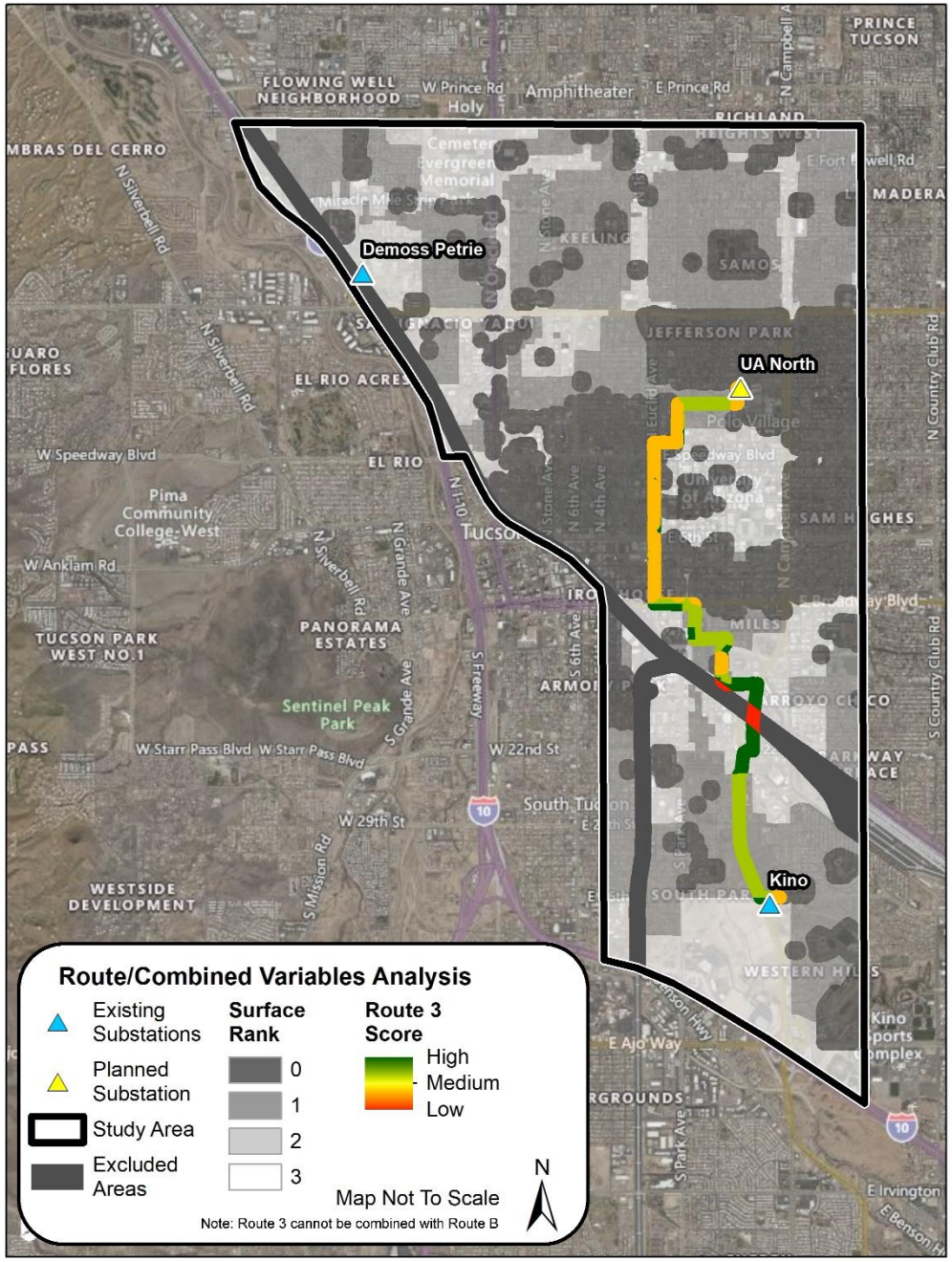
Combined Variables Analysis

Corridor 2



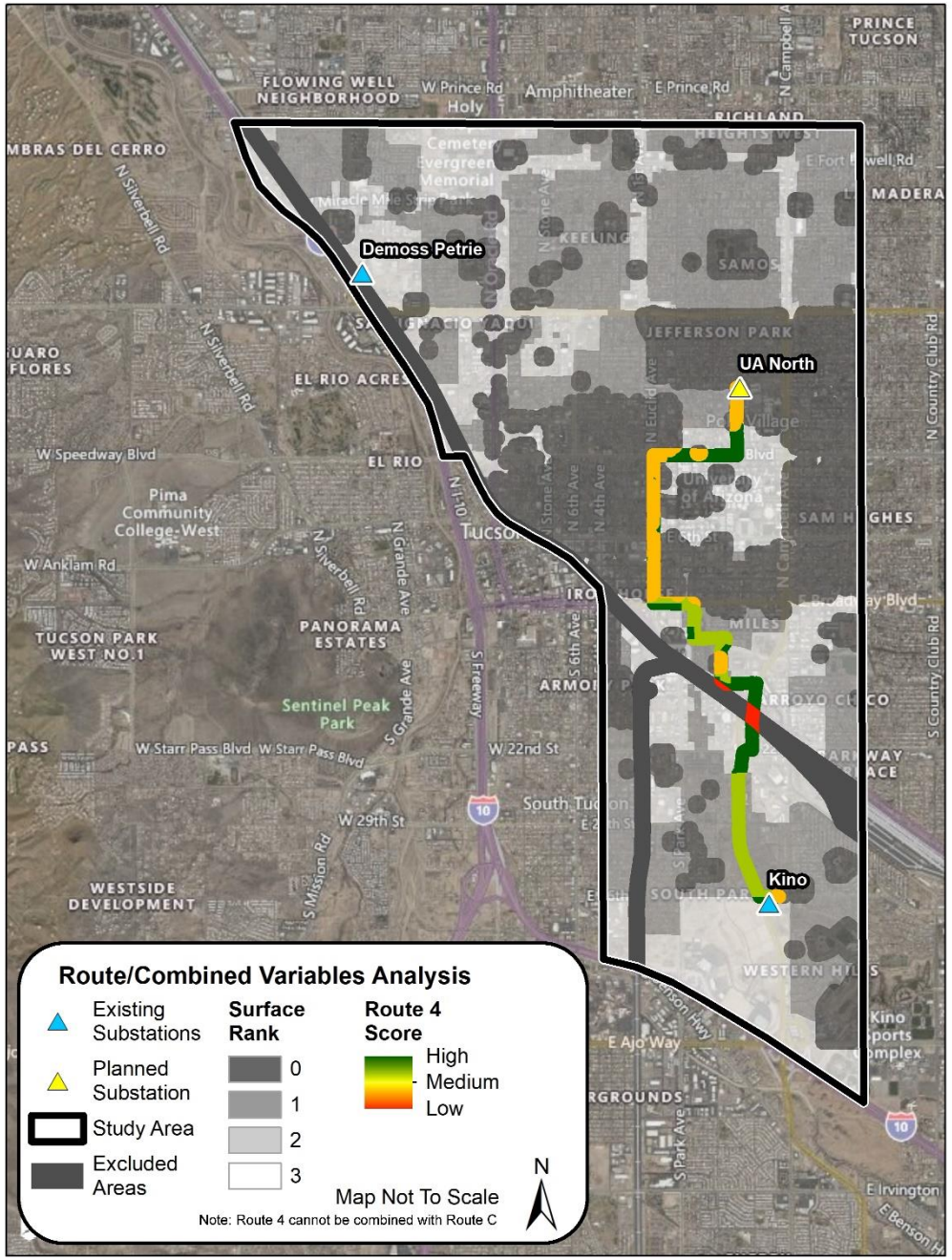
Combined Variables Analysis

Corridor 3



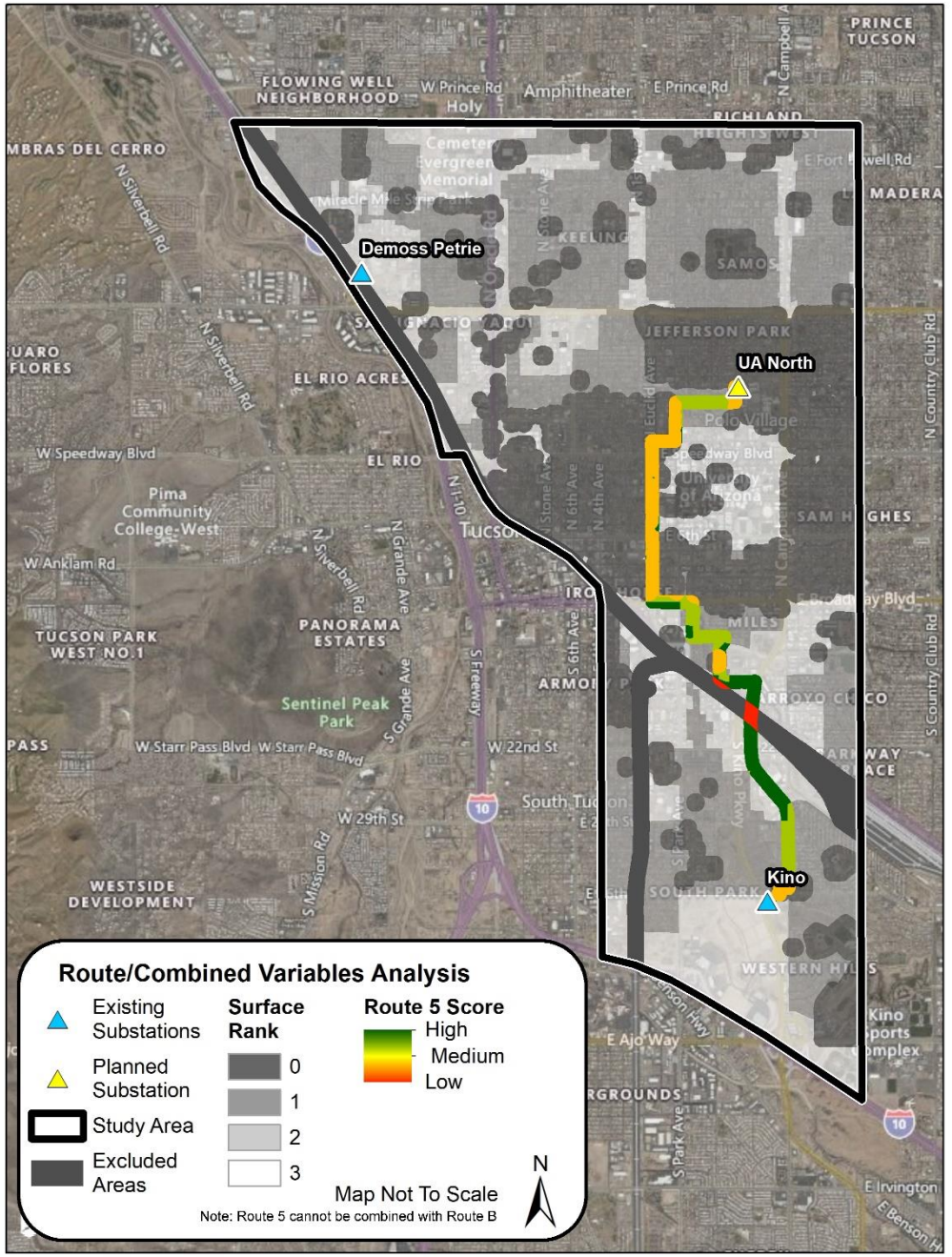
Combined Variables Analysis

Corridor 4



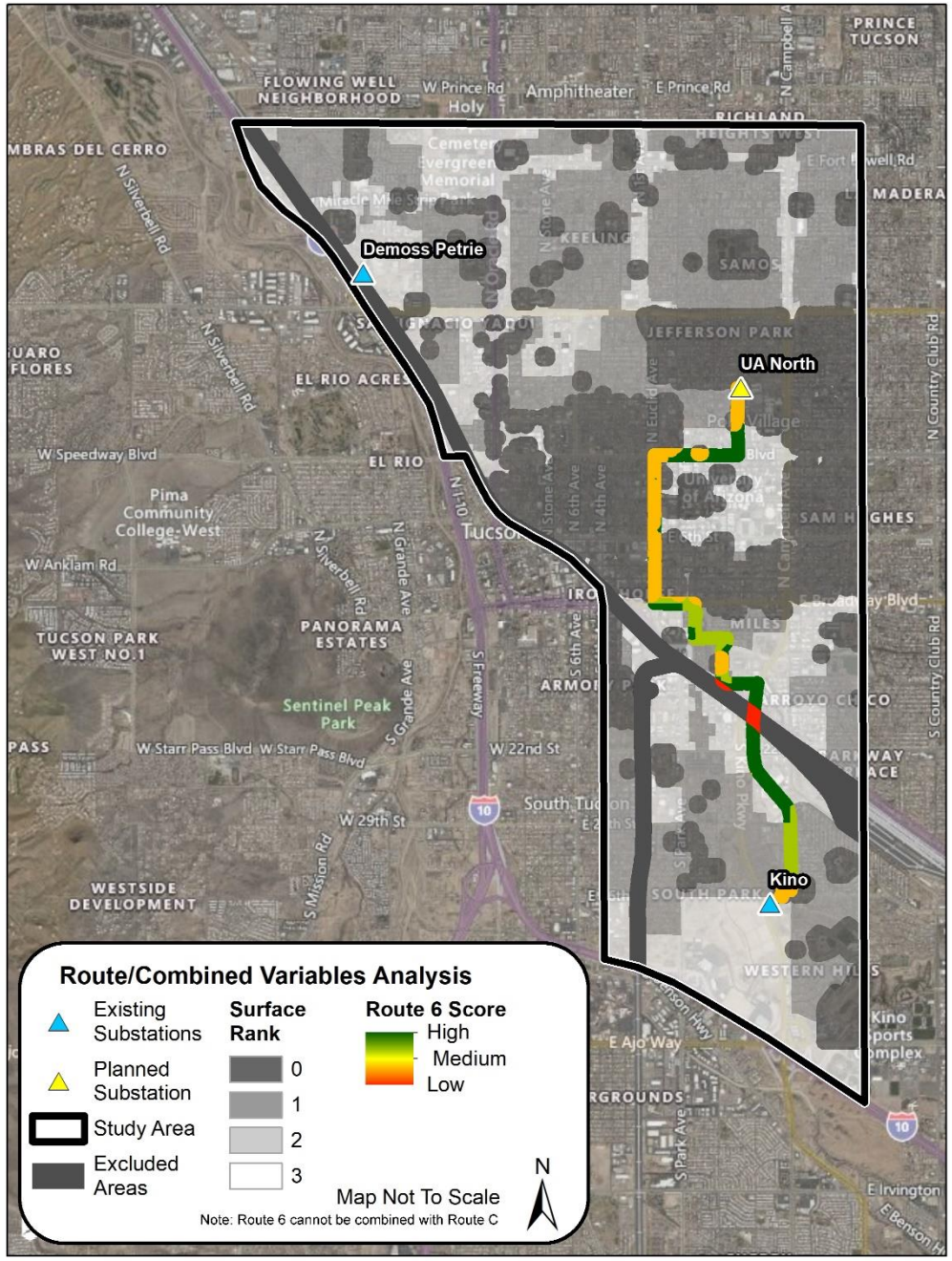
Combined Variables Analysis

Corridor 5



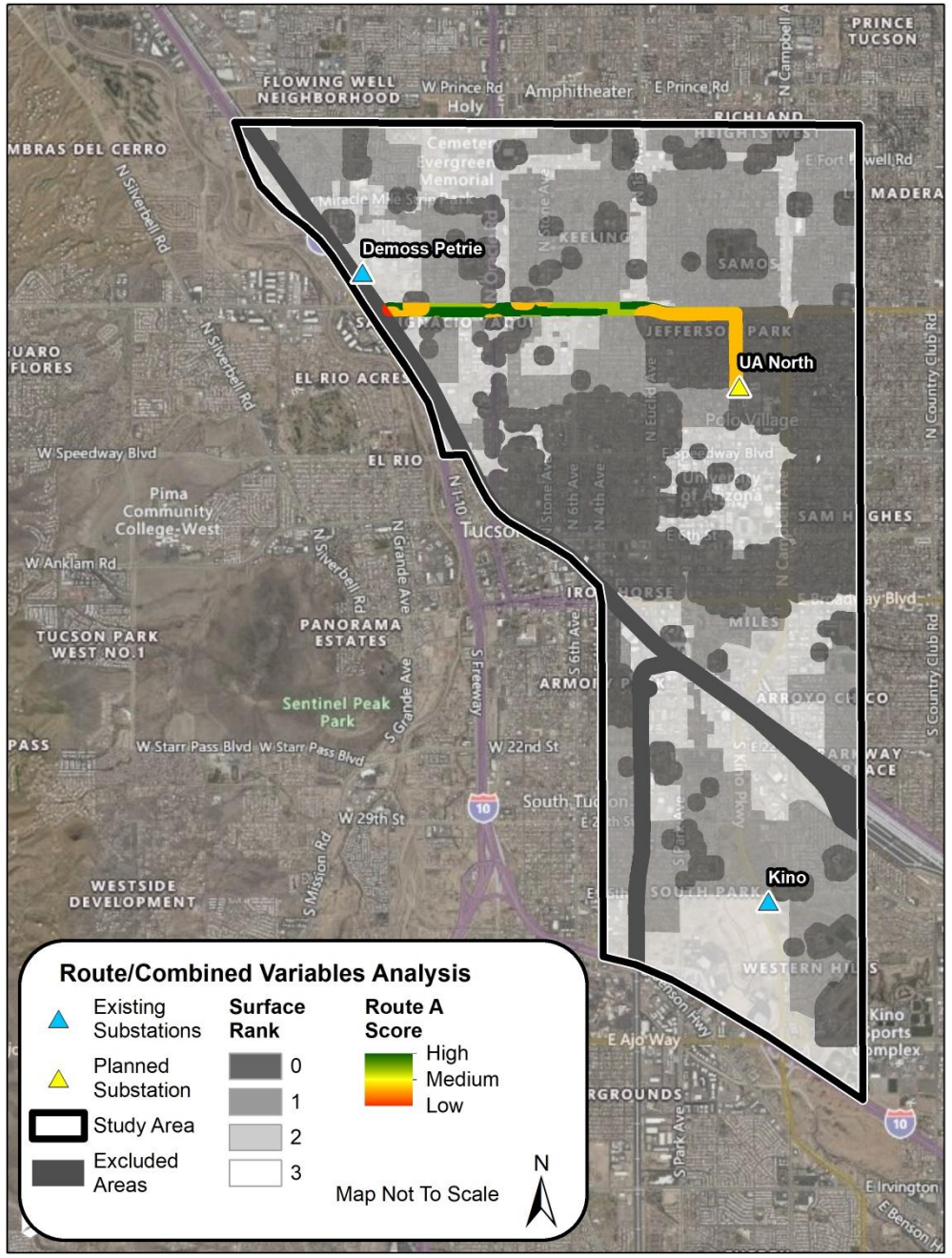
Combined Variables Analysis

Corridor 6



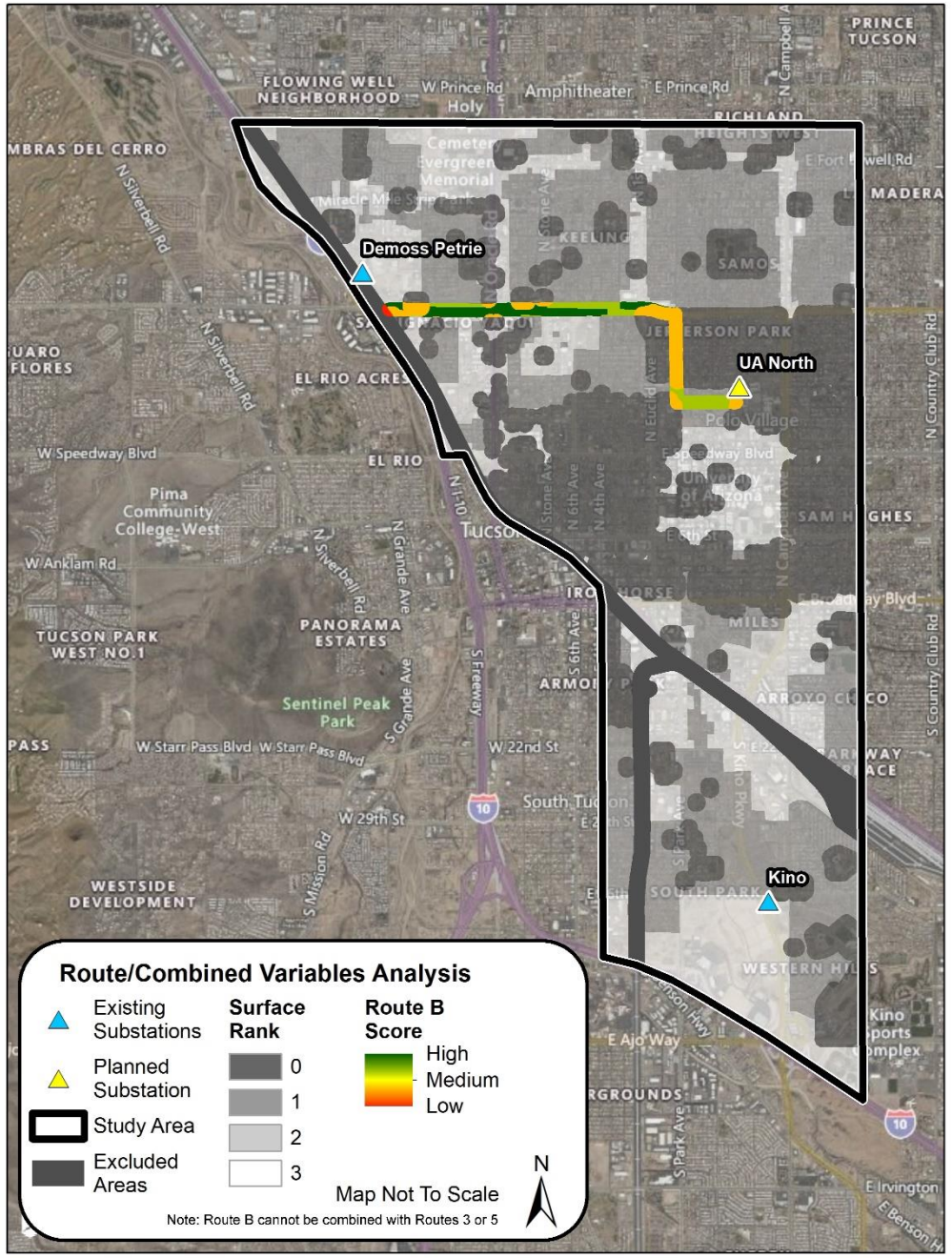
Combined Variables Analysis

Corridor A



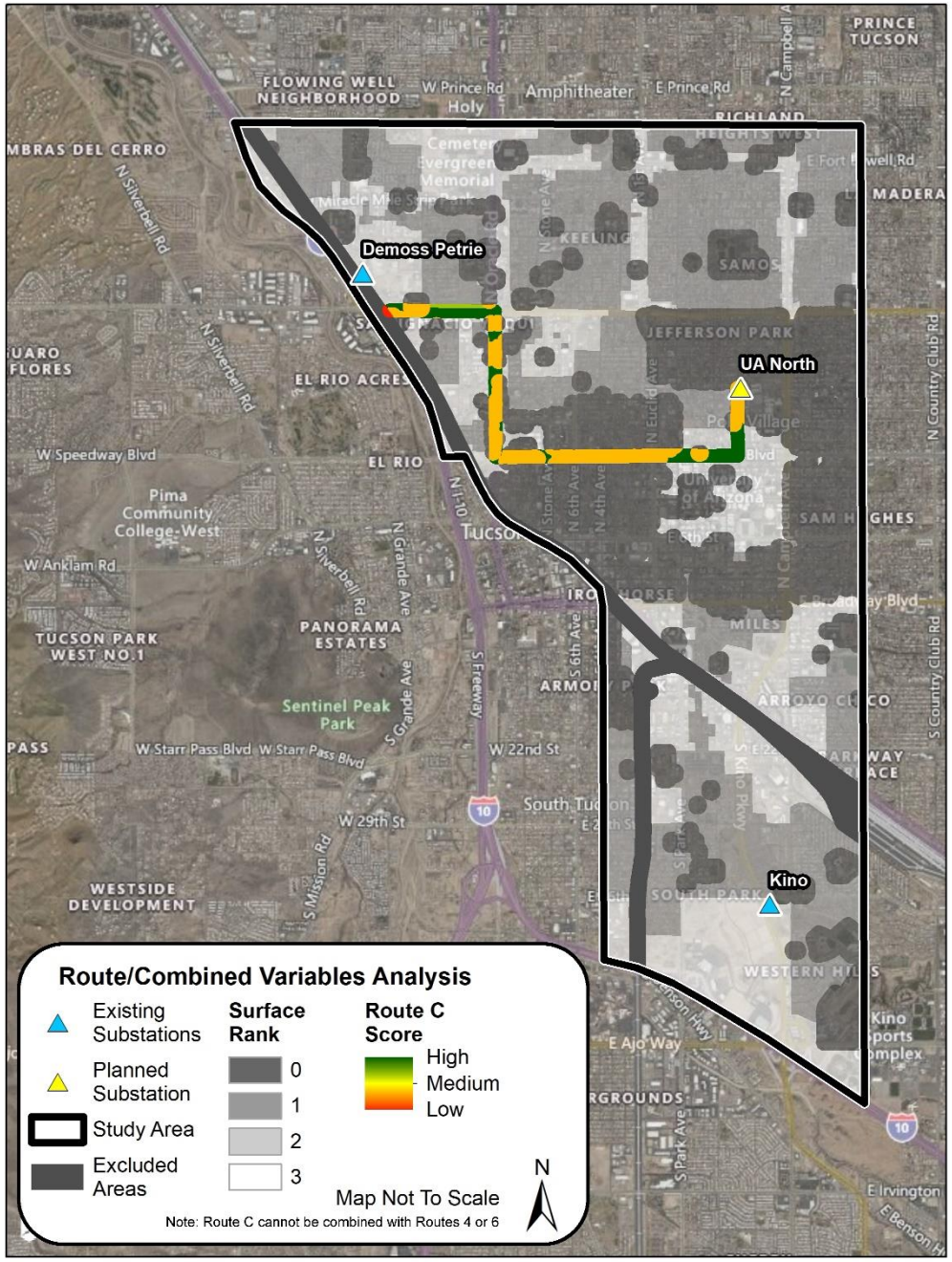
Combined Variables Analysis

Corridor B



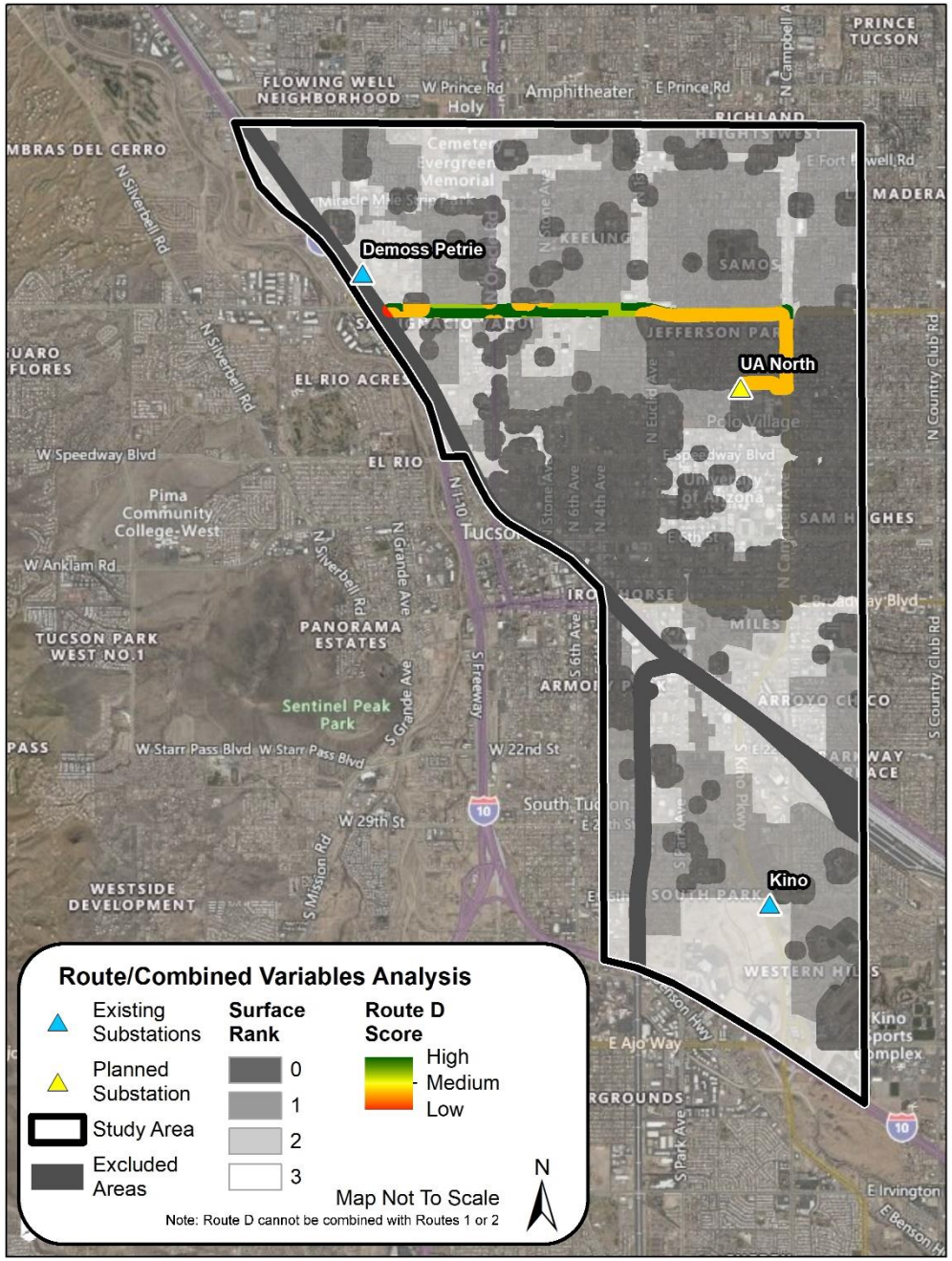
Combined Variables Analysis

Corridor C



Combined Variables Analysis

Corridor D



Kino to DeMoss-Petrie Transmission Line Project

Summary of Route Scores												
Preliminary Alternative Route	Length (miles)	% Historic Property	HP Rank (Scale 1-3)	% Sensitive Receptor	SR Rank (Scale 1-3)	% Residential Use	Res Use Rank (Scale 1-3)	Resource Rank Sum	Average Combined Resource Score	Average Constructability (Scale 1-3)	Total Sum	Total Avg. Score
1	4.01	36.90	2.00	22.49	3.00	47.10	2.00	7.00	2.33	2.25	4.58	2.29
2	4.00	37.50	2.00	27.20	2.00	39.80	2.00	6.00	2.00	2.35	4.35	2.18
3	5.00	31.70	2.00	17.70	3.00	58.60	1.00	6.00	2.00	2.34	4.34	2.17
4	5.01	26.40	2.00	17.00	3.00	46.60	2.00	7.00	2.33	2.29	4.62	2.31
5	4.93	32.10	2.00	21.50	3.00	52.70	1.00	6.00	2.00	2.30	4.30	2.15
6	4.95	26.80	2.00	20.80	3.00	40.70	2.00	7.00	2.33	2.24	4.57	2.29
A	2.87	40.30	2.00	17.40	3.00	44.50	2.00	7.00	2.33	2.63	4.96	2.48
B	2.97	28.60	2.00	14.10	3.00	48.00	2.00	7.00	2.33	2.70	5.03	2.52
C	3.82	54.60	1.00	33.80	2.00	20.60	3.00	6.00	2.00	2.18	4.18	2.09
D	3.56	49.90	2.00	26.10	2.00	47.80	2.00	6.00	2.00	2.64	4.64	2.32

* All factors being weighted equally

Kino to DeMoss-Petrie Transmission Line Project

Project Features

Pole Characteristics

Type: Tubular weathering steel monopoles

Pole height: Typically 75-110 feet

Span length: 600-1,000 feet
(distance between poles)

Poles per mile: 5-9 Structures

Right of way width: Up to 100 feet

Note: Example simulations

NOT FINAL ROUTES

Questions?

Next Steps

- Continue to incorporate public, Community Working Group, & stakeholder comments/data into geospatial analysis with a goal of narrowing down the number of routes.
- Conduct CWG Meeting # 5 September 2020
- Virtual Public Open House Meeting – September 2020
- Complete analysis and select *up to* three routes (including one preferred route) for incorporation into the CEC application
- File CEC application – November 2020
- ACC LSC Hearing – January 2021
- ACC Open Meeting – est. March 2021

Note: Future dates subject to change due to pandemic response

More Information

For more project information please visit the project webpage:

www.tep.com/kino-to-demoss-petrie/

Here, you can:

- Find a recorded version of this Virtual presentation
- Find a PDF of this presentation
- Find past newsletters, public meeting communications and Community Working Group (CWG) materials
- Read commonly asked questions & answers
- Read comments from the public and the CWG, and TEP's responses

Comment Deadline

Please submit all comments by Sunday, September 13, 2020

There will be future opportunities to comment on this project after TEP narrows down the number of routes and selects a preferred route.

How to submit comments after the meeting:

- Via voicemail at 1-833-523-0887
- Via email at KINO2DMP@tep.com
- Via comment form at: https://uns.wufoo.com/forms/z1eb494318gyjry/
- By U.S. Mail to: P.O. Box 711, ATTN: Kino-DMP, Mail Stop RC131, Tucson, AZ 85701-0711